Chapter 691: REGULATIONS FOR REGISTRATION, INSTALLATION, OPERATION AND CLOSURE OF UNDERGROUND OIL STORAGE FACILITIES

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Chapter 691 REGULATIONS FOR REGISTRATION, INSTALLATION, OPERATION AND CLOSURE OF UNDERGROUND OIL STORAGE FACILITIES

SUMMARY: The regulations replace previous regulations governing underground petroleum storage tanks and facilities. The regulations require the registration with the Commissioner of all new and existing underground petroleum tanks. They establish standards for the installation, operation and proper closure of all types of underground petroleum storage facilities. The regulations also outline requirements for the reporting and cleanup of leaks or other oil pollution at underground storage facilities.

1. **Legal Authority.** This rule is authorized by 38 M.R.S.A. Section 561, et seq., as enacted by P.L. 1985, Chapter 496 and as amended by P.L. 1987, Chapter 491 and P.L. 1990, Chapter 865. The statute requires the registration of all existing, new, and replacement underground oil storage facilities with the Department of Environmental Protection and authorizes and provides direction for the Board of Environmental Protection to develop rules for the design, installation, replacement, operation, and closure of underground oil storage facilities and tanks except for tanks used for the storage of propane.

2. **Preamble.** It is the purpose of these rules consistent with legislative policy, to provide necessary controls over underground oil storage facilities so as to ensure the protection of Maine's ground water resources and of public health, safety, welfare and the overall environment.

3. **Definitions.** The following terms as used in this rule shall have the following meaning:

   A. **Ancillary equipment.** "Ancillary equipment" means devices including but not limited to, piping fittings, flanges, valves and pumps used to distribute, meter or control the flow of oil to or from an underground oil storage tank.

   B. **Board.** "Board" means the Maine Board of Environmental Protection.

   C. **Cathode.** "Cathode" means the electrode of an electrochemical cell at which reduction occurs.

   D. **Cathodic protection tester.** "Cathodic protection tester" means an underground storage tank installer certified by the Maine Board of Underground Storage Tank Installers or a person certified by the Commissioner pursuant to 38 M.R.S.A. Section 567-A and Appendix M of this rule.

   E. **Cathodically protected.** "Cathodically protected" means the use of a technique, consistent with the National Association of Corrosion Engineers publication, "Recommended Practice for Control of External Corrosion on Metallic Buried, Partially Buried, or Submerged Liquid Storage Systems", RP-02-85, (April 1985) as amended, to prevent the corrosion of a metal surface by making that surface the cathode of an electrochemical cell.

   F. **Cathodic protection monitoring.** "Cathodic protection monitoring" means a process of measuring the structure to electrolyte potential to determine whether a cathodically protected structure is being adequately protected against corrosion. Cathodic protection monitoring shall be performed according to the requirements of Appendix A.

G. Contamination. "Contamination" for the purposes of this rule only and as applied to ground water, surface water, and soils; means oil pollution attributable to an underground oil storage facility exceeding any one of the following standards:

(1) The presence of free product or an oil sheen;

(2) Primary drinking water standards adopted by the Maine Department of Human Service's Bureau of Health under Title 22 MRSA, Section 2611;

(3) Maximum exposure guidelines developed and recommended by the Maine Department of Human Service's Bureau of Health;

(4) A statistically significant increase in the concentration of measured parameters at on-site or down-gradient locations by comparison with representative background values, as demonstrated by statistical methods and procedures using a 95% level of confidence, approved by the Commissioner and consistent with the provisions of 40 CFR Subsection 264.97 (with the exception that where the "Regional Administrator" is referred to, the "Commissioner" is meant).

(5) Total gasoline or total heating oil hydrocarbon concentrations in soil exceeding five (5) and 10 parts per million, respectively; or

(6) Soils visibly stained or discolored by a heavy oil.

H. Corrosion expert. "Corrosion expert" means a person who is certified by the Commissioner pursuant to 38 M.R.S.A. Section 567-A and Appendix N of this rule, as qualified to engage in the practice of corrosion control on buried or submerged metal piping systems and metal tanks.

I. Class I liquids. "Class I liquids" means liquids having a flash point below 100 degrees F.

J. Commissioner. "Commissioner" means the Commissioner of the Maine Department of Environmental Protection.

K. Continuous monitoring. "Continuous monitoring" means the use of a monitoring device capable of automatic, continuous unattended operation, which will provide a clear, audible or visual indication of the presence of liquid hydrocarbons or hydrocarbon vapors outside of a primary hydrocarbon container or the loss of the primary containment structure's integrity.

L. Corrosion-induced leak. "Corrosion-induced leak" means any discharge of oil from an underground oil storage facility or tank caused by the deterioration of materials which comprise the facility or tank, because of a reaction with the internal or external environment of the facility or tank.

M. Daily inventory and reconciliation. "Daily inventory and reconciliation" means accounting practices for oil stock control, which include at a minimum: (1) a record of all bulk liquid receipts; (2) a record of all liquid dispersed from the facility; (3) a daily reconciliation between sales, use, receipts, and inventory-on-hand; and (4) a monthly summary of inventory results maintained in accordance with the requirements of Section 5(D)(1) of this Rule.

N. Department. "Department" means the Maine Department of Environmental Protection composed of the Board and the Commissioner.

O. Discharge. "Discharge" means any spilling, leaking, pumping, pouring, emitting, escaping, emptying, or dumping.

P. Double-walled tank. "Double-walled tank" means an underground oil storage tank providing no less than 300 degree secondary containment, interstitial space monitoring and secondary containment for pressurized product delivery pipe connections.

Q. Emergency situation. "Emergency situation" means any unforeseen circumstances where the installation or replacement of an underground oil storage facility or tank is required to protect the public health, safety, and welfare.

R. Existing underground oil storage facility or existing underground oil storage tank. "Existing underground oil storage facility" or "existing underground oil storage tank" means any facility or tank, as defined in subsections VV and WW fully installed as of April 19, 1990, the effective date of P.L. 1990, Chapter 865, the location of which has not changed.

S. Facilities used for consumption on the premises. "Facilities used for consumption on the premises" means underground oil storage facilities not used to store motor fuels or waste oil, or in the marketing and distribution of oil to others. This includes underground heating oil storage facilities where the product is consumed on the premises or by the owner or operator of the facility.

T. Facilities used for marketing and distribution. "Marketing and distribution facility" means any underground oil storage facility where oil is stored for eventual resale.

U. Free product. "Fee product" means non aqueous phase liquid oil or petroleum.

V. Gallon. "Gallon" means a unit of volume in the U.S. Customary System, used in liquid measure, equal to four (4) quarts, or 3.785 liters.

W. Gasoline. "Gasoline" means a volatile, highly flammable liquid with a flashpoint of less than 100º F obtained from the fractional distillation of petroleum.

X. Heavy oil. "Heavy oil" means forms of oil that must be heated during storage, including, but not limited to #5 and #6 oils.

Y. Impressed current cathodic protection system. "Impressed current cathodic protection system" means a cathodic protection system which relies on direct current supplied by a power source external to the electrode system.

Z. In service. "In service" means that a tank or facility has had product added or removed for its intended purpose during a consecutive 12 month period.

AA. Leak. "Leak" means a loss or gain of 0.1 gallons or more per hour as determined by a precision test or other tank and piping tightness test methods capable of detecting a 0.1 gallon or more per hour product loss or gain.

BB. Monitoring well. "Monitoring well" means a dug or drilled, cased well or other device used to detect oil in ground water and constructed as specified in Appendices F and G of this rule, that can be used for detecting the presence of at least one-eighth of an inch of oil.

CC. Motor fuel. "Motor fuel" means oil that is motor gasoline, aviation gasoline, #1 or #2 diesel fuel or any grade of gasohol typically used in the operation of a vehicle or motor engine.

DD. Occurrence. "Occurrence" means a contamination incident or prohibited discharge associated with one or more tanks or piping at an underground oil storage facility within one year.

EE. Oil. "Oil" means oil, oil additives, petroleum products and their by-products of any kind and in any form including, but not limited to, petroleum, fuel oil, sludge, oil refuse, oil mixed with other waste, crude oils and all other liquid hydrocarbons regardless of specific gravity. For the purposes of this rule, oil shall not include propane.

FF. Operator. "Operator" means any person who is in control of, and responsible for the daily operation of an underground oil storage facility or tank.

GG. Out-of-service underground oil storage facility or tank. "Out-of-service underground oil storage facility" and "out-of-service underground oil storage tank" means any such facility or tank, as defined in subsections VV and WW, neither receiving nor dispensing oil, but to be returned to service or awaiting abandonment pursuant to Section 11 of this rule.

HH. Owner. "Owner" means any person who alone, or in conjunction with others owns an underground oil storage facility.

II. Person. "Person" means any natural person, firm, association, partnership, corporation, trust, the State and any agency of the State, governmental entity, quasi-governmental entity, the United States and any agency of the United States and any other legal entity.

JJ. Piping line tightness test. "Piping line tightness test" means a precision test, approved by the Commissioner, to determine the presence of a leak in the piping components of a facility. Volumetric and non volumetric tests may be used in accordance with the provisions of this subsection. Test methods shall be able to detect a leak of 0.1 gallons per hour with a probability of 95 percent or greater and a probability of false alarm of five (5) percent as determined by independent testing laboratory results using U.S. Environmental Protection Agency approved testing protocols. Hydrostatic piping tightness tests shall be conducted in accordance with the requirements of Appendix B. Piping line tightness test may also include non volumetric test methods where conducted in strict accordance with the manufacturer's protocols by manufacturer certified technicians, approved by the Commissioner and meeting the performance standards of this subsection.

KK. Pneumatic test. "Pneumatic test" means an air pressure test, performed in accordance with the requirements of Appendix C of this rule.

LL. Precision test. "Precision test" means a tank or piping line tightness test, approved by the Commissioner, that is capable of detecting a leak, a loss or gain of 0.1 gallon per hour with a probability of detection of 95 percent and a probability of false alarm of five (5) percent as determined by an independent testing laboratory using U.S. Environmental Protection Agency approved protocols.

MM. Primary sand and gravel recharge area. "Primary sand and gravel recharge area" means the surface area directly overlying sand and gravel formations that provide direct replenishment of ground water in sand and gravel and fractured bedrock aquifers. The term does not include areas overlying formations that have been identified as unsaturated and not contiguous with saturated formations.

NN. Private water supply. "Private water supply" means any dug, drilled or other type of well or spring or other source of water which collects water for human or animal consumption and is not a public water supply.

OO. Public drinking water supply. "Public drinking water supply" means any well or other source of water which furnishes water to the public for human consumption for at least 15 connections, regularly serves an average of at least 25 individuals daily at least 30 days out of the year, or which supplies bottled water for sale.

NOTE: The water source of restaurants, motels and other establishments providing water for human consumption are usually public drinking water supplies. For example, the water source for convenience stores offering water in coffee or other drinks to the public may fall under this definition. To verify if a well or other drinking water source is a public drinking water supply, contact the Maine Bureau of Health.

PP. Secondary containment. "Secondary containment" means a system installed so that any material that is discharged or has leaked from the primary containment is prevented from reaching the soil or ground water outside the system for the anticipated period of time necessary to detect and recover the discharged material. Such a system may include, but is not limited to, impervious liners with a maximum hydraulic conductivity of 10^{-6} cm/sec and compatible with the products stored, double-walled tanks and piping, or any other method approved by the Commissioner that is technically feasible and effective, and meets the requirements of Section 5(A)(2).

QQ. Sensitive geologic areas. "Sensitive geologic areas" means any of the following: 1) significant ground water aquifers, as defined in subsection RR below; 2) primary sand and gravel recharge areas, as defined in subsection MM above;) 3) locations within 1,000 feet of a public drinking water supply; or 4) locations within 300 feet of a private drinking water supply. Sensitive geologic areas around surface water bodies shall include all areas within 1000 feet of the intake point of a public water system, except on rivers and streams where it will only include areas within a 1000 feet of the intake point and upstream on either shore. All areas within 300 feet of the intake point in a lake, pond or other surface water body used for a private water supply system shall be considered a sensitive geological area, except on rivers and streams where it will only include areas 300 feet upstream on either shore of the intake point.

RR. Significant ground water aquifer. "Significant ground water aquifer" means a porous formation of ice-contact and glacial outwash sand and gravel, as identified by the current Maine Geological Survey maps, that contains significant recoverable quantities of water which is likely to provide drinking water supplies.

NOTE: Sand and Gravel Aquifer Maps are available from the Maine Geological Survey, Department of Conservation, State House Station #22, Augusta, Maine 04333.

SS. Site assessment. "Site assessment" means a determination at the time of facility or tank closure of the occurrence of a prohibited leak or discharge of oil, and of the presence or absence of oil contamination in the soils or the waters of the State. Site assessments shall be limited to the underground oil storage facility and shall use cost-effective, reliable and technically feasible investigation techniques.

TT. Statistical inventory analysis. "Statistical inventory analysis" or "statistical inventory reconciliation" means a process of evaluating the various sources of errors present in daily inventory records and capable of detecting a leak or discharge of 0.2 gallons per hour or 150 gallons within 30 days of occurrence with a 95 percent probability and a five (5) percent chance of a false alarm as determined by an independent testing laboratory using U.S. Environmental Protection Agency's standardized test procedures, conducted in accordance with the requirements of Section 5(D)(2).

UU. Tank tightness test. "Tank tightness test" means a precision test, approved by the Commissioner, that is capable of detecting a leak of 0.1 gallons per hour with a probability of 95 percent and a probability of false alarm of five (5) percent, as demonstrated by independent laboratory testing using the appropriate U.S. Environmental Protection Agency's approved testing protocol. Tank tightness tests may include volumetric tank tightness tests or non volumetric tank tightness tests. Tank tightness tests shall be conducted in strict accordance with manufacturer's operating procedures and any protocols identified by an independent testing laboratory as required to meet the performance standards of this subsection.

VV. Temporarily out of service facility or tank. "Temporarily out of service facility" and "temporarily out of service tank" means a facility which has received written permission from the Department to remain inactive for an additional twelve (12) months, in accordance with the requirements of Section 11 of this rule.

WW. Underground oil storage facility. "Underground oil storage facility," also referred to as "facility," means any underground oil storage tank or tanks, as defined in subsection WW, together with associated piping and dispensing facilities located under any land at a single location and used, or intended to be used, for the storage or supply of oil, as defined in this rule. Underground oil storage facility also includes piping located under any land at a single location associated with above ground storage tanks and containing 10 percent or more of the facility's volume capacity.

XX. Underground oil storage tank. "Underground oil storage tank," also referred to as "tank," means any container, 10% or more of which is beneath the surface of the ground and which is used, or intended to be used, for the storage, use, treatment, collection, capture or supply of oil as defined in this subchapter, but does not include any tanks situated in an underground area if these

tanks or containers are situated upon or above the surface of a floor and in such a manner that they may be readily inspected. For the purpose of this Rule, underground oil storage tanks do not include underground propane storage tanks., underground oil water separators, stormwater catch basins, and hydraulic lift tanks.

YY. Volumetric tank tightness test. "Volumetric tank tightness test" means a hydrostatic tank tightness test or precision test conducted at constant hydrostatic pressure at the bottom of the tank; where instrumentation noise shall be three (3) to five (5) times less than the minimum detectable leak rate; where temperature sensors must provide adequate spatial coverage of tank; and calibration of all instrumentation shall be able to be field checked. A volumetric or hydrostatic tank tightness test shall be performed in accordance with Appendix B of this rule.

ZZ. Waste Oil. "Waste Oil" means a petroleum based oil which, through use or handling, has become unsuitable for its original purpose due to the presence of impurities or loss of original properties. It must have sufficient liquid content to be free flowing. Waste oil is further defined in Chapter 860, Section 5 of Department's Waste Oil Management Rules.

AAA. Waste Oil Dealer. "Waste oil dealer" means any person in the business of transporting or handling more than 1,000 gallons of waste oil for the purpose of resale in a calendar month. A person who collects or stores waste oil on the site of generation, whether or not for the purpose of resale, is not a waste oil dealer.

BBB. Waste Oil Tank. "Waste oil tank" means an underground oil storage tank used for the storage of waste oil.

4. Registration of Underground Oil Storage Facilities

A. All underground oil storage tanks and facilities must be registered on a form provided by the Commissioner, regardless of use, size or type of petroleum product stored therein and regardless of whether the tanks and facilities are in service or out of service.

B. No person may install, or cause to be installed, a new or replacement underground oil storage tank or facility without first having: 1) filed registration materials in accordance with information requirements specified in subsection I, which have been deemed complete by the Commissioner at least five (5) business days prior to installation; 2) sent a copy of the materials and any subsequent amendments to the local fire department having jurisdiction; 3) retained a copy to be made available on site to the Department of Environmental Protection employees, agents or authorized representative and to municipal officials; and 4) paid the registration fee in accordance with the requirements of subsection J.

C. No person may retrofit an existing underground oil storage facility with leak detection, overfill prevention equipment or other design or installation changes without first having filed a registration amendment in accordance with subsection N.

D. Registration materials for new or replacement facilities or, retrofits for existing facilities, not in conformance with this rule, shall not be accepted by the Commissioner.

E. Acceptable evidence that a new, retrofitted or replacement tank has been properly registered shall consist of receipt of a written acknowledgment from the Commissioner. The Commissioner will determine the completeness of the registration materials and notify the registrant within 5 business days of receipt.

F. A person who installs, or causes to be installed, a new or replacement underground storage tank, or retrofits an existing tank, after 5 business days of the Commissioner's receipt of the registration form, without first having received confirmation that the registration is complete, does so at his own risk. If it is determined that the facility was not installed in accordance with the regulations, the tank owner shall bring the facility into conformance with these regulations.

G. When an emergency situation occurs, the time requirement of subsection B may be waived by the Commissioner upon petition of a tank registrant if: 1) the registrant can demonstrate to the Commissioner that an emergency situation exists; and 2) the local fire department having jurisdiction has been notified by the registrant that the tank is being installed without the five (5) day notice due to an emergency situation.

H. For existing facilities, the information required for registration shall be submitted to the Commissioner and a copy provided to the fire department having jurisdiction in accordance with this section. No person may operate, maintain or store oil in an underground oil storage facility, unless each underground oil storage tank at that facility has been properly registered with the Commissioner and a copy of the registration materials has been received by the local fire department having jurisdiction.

I. Registrations shall be submitted on forms developed by the Commissioner, which shall contain the following information:

(1) The name, mailing address, and telephone number of the owner;

(2) The name, mailing address, and telephone number of the operator;

(3) The name, and telephone number of the facility;

(4) The location of the facility indicated as precisely as possible on a United States Geological Survey topographic map unless the facility is located within the boundaries of a Department of Transportation Urban Compact Zone in which case the location may be described by the direction and measured distance to the nearest 100 feet from an intersection of two named public roads;

NOTE: U.S. Geological Survey topographical maps are available at most outdoor sporting good stores and the Maine Geological Survey, Department of Conservation, State House Station #22, Augusta, Maine 04333. Urban Compact Zone boundaries are designated by signs along major roads.

(5) The name, mailing address, and telephone number of an individual to contact with questions on the registration materials submitted;

(6) The location of the facility relative to a sensitive geologic area, including: (a) whether a private water supply exists within 300 feet of the tanks; (b) if any person owns, operates, or utilizes any private water supply within 300 feet of the tanks; (c) whether a public water supply exists within 1,000 feet of the tanks; and (d) whether the facility is located on a primary sand and gravel recharge area or significant ground water aquifer, as defined by this rule.

(7) The location of the facility relative to a 100 year flood plain as mapped by the Federal Emergency Management Agency (FEMA), or in the absence of such maps, as indicated by the presence of flood plain soils or the flood of record.

NOTE: FEMA maps are available at most municipal offices.

(8) The size of each tank and each internal storage compartments (if more than one) measured in gallons;

(9) The type of tank(s) and piping, including the materials used for construction and the type of pumping system;

(10) The type of product(s) stored in each tank;

(11) or a new or replacement facility or retrofitting of an existing facility, the installer's name, signature and certification number assigned by the Maine Board of Underground Storage Tank Installers;

(12) For a new or replacement facility, a site drawing of the facility containing the location of all new or replacement tanks, including: (a) distance and direction measurements that are sufficient to locate all underground portions of the facility, (b) details of secondary containment and interstitial space leak detection monitoring equipment, (c) locations of any monitoring wells; and (d) all piping associated with the new or replacement facility.

(13) The best estimate of the date of installation for each existing tank and its warrantee expiration date, if available;

(14) For new and replacement tanks, the expiration date of the tank manufacturer's warrantee;

(15) For retrofitting an existing underground oil storage facility, the information required in paragraphs 1,2,3,4,8,9 11 and 12 above shall be provided on the required registration amendment, as well as information on the type of leak detection; overfill prevention; or other equipment to be installed;

(16) Any other information required by Federal law or regulation; and

NOTE: 1984 Amendments to Federal law (Subtitle I of the Resource Conservation and Recovery Act, Section 9002, et seq.) mandate a Federal underground tank notification program and specify informational requirements for that program. Registration forms are available from the Maine Department of Environmental Protection which meet all Federal and State informational requirements. A tank owner is not required to send a copy of the

completed form to the U.S. Environmental Protection Agency in addition to the Commissioner.

(17) Certification of the accuracy of the information by the tank owner or the owner's permanent full time employee. The certification cannot be signed by the installer or other subcontractor, unless the tank is owned by the installer.

J. Registration fees. The owner or operator of an underground oil storage facility shall pay an annual registration fee to the Commissioner of $35 for each tank located at the facility, except that single family homeowners are not required to pay a fee for a tank at their personal residence. Annual payments must be paid on or before January 1st of each calendar year in order to maintain an effective registration for the upcoming year. Registrations for new tanks shall include payment of the annual registration fee. Registration of a replacement facility shall not require that an additional fee be paid or accompany the registration amendment if the annual fee has been previously paid.

K. It is the responsibility of the facility owner to register all tanks. Where the facility owner cannot be determined or is disputed, it shall be the responsibility of the property owner to register all facilities and tanks located on his property.

L. If the planned new or replacement tank or facility meets the definition of "hazardous activity" as stated in 38 MRSA, Section 482(2-C), and is not exempted pursuant to Chapter 371, Section 1(GG)(3) of the Department's Site Location of Development Rules, the completed registration materials will constitute acceptable preliminary notification to the Department for permitting as required by 38 MRSA, Section 483(1).

M. The Commissioner will assign a unique registration number to each facility and to each tank at a facility. These registration numbers shall be provided to the owner or operator and shall be used for annual re-registration and in all subsequent correspondence regarding registered facilities and tanks. The owner or operator shall post the registration number or certificate in a prominent location at the facility.

N. Registration amendments. The owner or operator of an underground oil storage tank shall file an amended registration form with the Commissioner and the local fire department having jurisdiction whenever there is a change in the information required pursuant to subsection I. Such amendments shall be received by the Commissioner within 10 days; except for retrofitting of leak detection, overfill and spill protection, or other underground oil storage facility equipment shall be submitted at least five (5) business days before installation. No fee shall be charged for filing an amended registration.

O. Supplier notification requirement. Any person who sells a tank intended to be installed as an underground oil storage tank shall notify the purchaser in writing of the purchaser's registration obligations under this section.

P. Wherever these rules require that information or notice be submitted to the Commissioner or Department, failure to provide such notice or information in the manner required by these rules or providing false information shall constitute a violation of these rules.

Q. Notification at time of facility sale or transfer. Prior to the sale or transfer of any real estate where an underground oil storage facility is located, the owner of the real estate shall file a written notice with the purchaser or transferee. The notice shall disclose the existence of the underground oil storage facility, its registration number or numbers, the real estate where the facility is located, whether or not the facility has been abandoned in place and that the facility is subject to this rule, including the registration requirements of this Section.

(5) Regulation of Underground Oil Storage Facilities Used to Store Motor Fuels or Used in the Marketing and Distribution of Oil

A. Applicability

(1) This Section and its requirements apply to all facilities and tanks used to store motor fuel or used in the marketing and distribution of oil to others, except where noted below.

(2) This Section does not apply to field constructed tanks and airport aviation fuel pressurized hydrant piping, which must comply with Sections 8 and 10 of this rule, respectively.

B. Design and installation standards for new and replacement facilities

(1) General design requirements

(a) All new and replacement tanks shall be constructed of fiberglass, reinforced plastic (hereafter referred to as fiberglass), cathodically protected steel, or other equally non-corrosive material approved by the Commissioner. Piping and below ground ancillary equipment in contact with soil shall be constructed of fiberglass, cathodically protected steel or other corrosion-resistant or non-corrosive materials which may be approved by the Commissioner.

(i) It shall be the responsibility of the facility owner to demonstrate to the satisfaction of the Commissioner that the materials are non-corrosive or corrosion resistant and meet or exceed the performance standards listed below.

(ii) All new or replacement facilities shall be listed and constructed in accordance with the standards contained in the following:

Steel Tanks - Underwriters Laboratories 58 and 1746; or Underwriters Laboratories Canada S603.1 M 1985;

Fiberglass Tanks - Underwriters Laboratories 1316;

Cathodically Protected Tanks and Piping - National Association of Corrosion Engineers, RP-02-85 or Steel Tank Institute (STI) Tank Standard R892-89;

Composite Tanks - Association for Composite Tanks ACT-100, UL 1746 or Steel Tank Institute (STI) Composite Tank Standard (F894-89);

Non-Metallic and Fiberglass Piping - Underwriters Laboratories of Canada Guide ULC-107 or Underwriters Laboratories Subject 971.

Pipe Connectors - Underwriters Laboratories Standard 567;

Flexible Connectors - Underwriters Laboratories of Canada Standard CAN 4-S633-M84; and

Steel Piping - National Fire Protection Association Standards 30 or 31, American Petroleum Institute Publications 1615 and 1632, and National Association of Corrosion Engineers Standard RP-01-69.

NOTE: Fiberglass clad steel and other steel composite tanks must need not be provided with galvanic or impressed current cathodic protection if desired and constructed with secondary containment and interstitial space monitoring in accordance with the standards of this subsection.

(iii) Impressed current cathodic protection systems shall be designed by a corrosion expert and according to the standards described in the National Corrosion Engineers Recommended Practice RP 02-85, and installed under the supervision of a corrosion expert and by a Maine certified underground oil storage tank installer.

(b) All facility construction materials shall be chemically and physically compatible with the product to be stored.

NOTE: Gasoline underground oil storage facilities with an annual throughput of 100,000 gallons or greater are required to install vapor control equipment in accordance with Chapter 118 of the Department's air quality regulations (06-076 CMR c. 118).

(2) Leak detection. All new and replacement facilities shall be designed to provide secondary containment for all facility components routinely containing product, including tanks, product piping and below ground ancillary equipment. New and replacement tanks and product piping shall have continuous interstitial space monitoring. Suction piping designed and installed in accordance with this rule is not required to have secondary containment. Interstitial space monitoring shall be able to detect a leak from the primary containment structure of at least 0.2 gallons/hour or 150 gallons within 30 days of a leak or discharge with a 95 percent probability of detection and a five (5) percent probability of false alarm, as determined by an independent testing laboratory using U.S. Environmental Protection Agency approved protocols.

(3) Overfill and spill prevention equipment. New and replacement facilities shall include the following spill and overfill equipment:

(a) A liquid tight spill catchment basin of a minimum capacity of three (3) gallons for each tank fill, which is sealed around the fill pipe and will collect any spillage during product delivery; and

(b) Overfill prevention equipment that will automatically shutoff flow into the tank when the tank is no more than 95 percent full, or alert the transfer operator when the tank is no more than 90 percent full by restricting flow into the tank or triggering a high-level audible alarm.

(4) General facility installation requirements

(a) No person may install an underground oil storage facility or a portion thereof unless that person is a properly certified underground oil storage tank installer with the appropriate class of certification in accordance with Title 32 MRSA, sections 10001 through 10015, and has paid the required certification fee.

(b) No underground oil storage facility may be installed unless the entire facility has been registered in accordance with Section 4 of this rule.

(c) No underground oil storage tank or piping shall be installed within one (1) foot of the closest bedrock.

(d) All phases of the installation of an impressed current cathodic protection system must be conducted under the surveillance of a corrosion expert. The tank, piping and other portions of the facility other than the impressed current system may be installed by a Maine certified underground oil storage tank installer without such supervision.

(e) All new and replacement steel tanks and piping with cathodic protection shall be monitored within six (6) to 12 weeks of completion of installation by a cathodic protection tester in accordance with Appendix A of this rule.

(f) Certification of proper installation: Owners of new and replacement facilities shall ensure that the installer(s) provides certification to the Commissioner within 30 days of completion of installation; that the facility's materials, design and installation are in compliance with the requirements of this rule. This certification shall be provided in writing on a form provided by the Commissioner.

(g) No used or previously installed fiberglass or cathodically protected steel tank or piping may be re-installed, unless the owner has supplied the Commissioner with satisfactory documentation that the manufacturer will warranty that tank or piping against internal and external corrosion and structural failure for a period of at least ten (10) years, after which the tank or piping must be properly abandoned in accordance with the requirements of Section 11 of this rule. Re-installation of a tank or piping shall require an amendment of the facility's registration in accordance with Section 4(N) of this rule.

(5) Installation requirements for new and replacement tanks.

(a) New and replacement tanks and facilities shall be installed in conformance with the requirements contained in Appendix D, except field constructed tanks which are to be installed in accordance with Section 8 of this rule.

(b) If a tank is replaced, all associated piping not constructed of fiberglass, cathodically protected steel, or another equally non-corrosive material approved by the Commissioner

shall be replaced. Any replacement piping shall be designed and installed in accordance with this rule. If product piping is replaced and structural damage to the associated tank has occurred, impairing its physical integrity, the tank shall also be replaced if not constructed of fiberglass, cathodically protected steel, or other non corrosive material approved by the Commissioner. Any replacement tank shall be designed and installed in accordance with this rule. Repairs of damaged fiberglass, cathodically protected steel and other Commissioner approved non-corrosive material tanks may only be made if conducted in accordance with Sections 5(D)(14) or (15). Tanks that can not be repaired shall be abandoned in accordance with Section 11.

(6) Installation requirements for new and replacement piping.

(a) All underground piping shall be designed and installed in conformance to the requirements contained in Appendix E, except airport aviation fuel pressurized hydrant piping, which must comply with Section 10 of this rule.

(b) All underground piping in contact with soil shall be constructed of fiberglass or cathodically protected steel. Other non-corrosive materials may be used when approved by the Commissioner.

(i) It shall be the responsibility of the tank owner to demonstrate to the satisfaction of the Commissioner that the materials are non-corrosive.

NOTE: Galvanized piping does not meet the requirement for corrosion protection of tanks and piping, and does not meet the criteria for cathodic protection as stated in the National Association of Corrosion Engineers, Recommended Practices 02-85.

(ii) All new or replacement non-metallic product piping shall be listed by Underwriters Laboratories for Underground use. Cathodically protected piping shall be constructed and installed in conformance with the National Association of Corrosion Engineers, Recommended Practices, Publication No. 02-85 or Steel Tank Institute (STI) Standard RP 892-89.

(iii) Other than field coating limited to fill pipes and piping joints, field coating of steel pipe for product delivery lines is prohibited except where supervised and inspected by a corrosion expert.

(c) Product lines shall be installed in a single trench between the tank area and each pump island. Underground vent lines shall be installed in a single trench. All product and vent lines shall slope toward the tank area at a minimum of 1/8 inch per foot.

(d) Secondary containment and cathodic protection of fill pipes is not required provided the fill pipe is constructed of Schedule 40 steel and is uniformly coated with a minimum of 1/8 inch of fiberglass resin., bitumastic coating or epoxy coating. The pipe surface shall be properly prepared and the coating allowed to cure.

(7) Installation requirements for leak detection and overfill/spill prevention equipment. Leak detection and overfill/spill prevention alarms and shutoff equipment shall be installed prior to the start of the facility's operation and in accordance with manufacturer specifications, including proper calibration of electronic equipment.

C. Retrofitting requirements for existing facilities

(1) Existing facility owners shall retrofit or institute a leak detection method, capable of detecting a leak within 30 days of occurrence with a probability of detection of 95 percent and a five (5) percent probability of a false positive as determined by an independent testing laboratory using U.S. Environmental Protection Agency approved testing protocols, and listed in paragraph 2 below. Facility owners shall have leak detection in operation by December 1, 1990 for facilities with pressurized piping and by December 1, 1991 for facilities with suction piping. Existing facilities with secondary containment with interstitial space monitoring for all tanks, product piping and associated below ground ancillary equipment as well as tanks installed with an impervious barrier sloped to a monitoring well in accordance with Appendix G are considered to meet this requirement. Facilities with suction piping installed such that the piping is sloped so that the contents of the pipe will drain back into the tank if suction is lost, and only one check valve is located in a piping line with the check valve located directly below and as close as possible to the pump, may have until December 1, 1993 to implement leak detection. Where an existing tank has leak detection meeting the requirements of this rule, the associated product piping shall be provided leak detection in accordance with the time schedule and other provisions of this subsection. If the mandatory removal date for a non-conforming facility required by Title 38 MRSA subsection 563(A-1) precedes the leak detection compliance schedule outlined above; the facility owner shall comply with the removal schedule in Title 38 MRSA, subsection 563(A-1).

(2) Acceptable leak detection methods are any one of the following:

(a) Monthly reconciliation of daily product inventory data in accordance with Appendix I and an annual precision test of all tanks and piping. All facilities intending to use or using this method must install drop tubes in the fill pipes. An annual statistical inventory analysis conducted in accordance with Section 5(D)(2) capable of detecting a leak rate of 0.1 gallons, per hour with a 95 percent probability of detection and five (5) percent probability of false alarm may be substituted for a precision test for the purposes of this paragraph. In addition all pressurized piping shall be retrofitted with an automatic in-line leak detector capable of detecting a leak of three (3) or more gallons per hour at 10 pounds per square inch line pressure within one (1) hour of its occurrence with a 95 percent probability and a five (5) percent probability of false alarm.

(b) Continuous or manual monitoring for free product in ground water monitoring well(s) installed in the excavated area, and as close as technically feasible around the tank or tanks, accompanied by one of the methods listed below in paragraph 2(e) of this subsection to detect a leak from piping not installed in accordance with Section 5(B)(2). Continuous monitoring devices and manual monitoring methods must detect the presence of at least one-eighth of an inch of free product on the ground water surface in monitoring wells. Monitoring wells shall be installed in accordance with Appendix F and the following requirements:

(i) The ground water table is not more than 20 feet from the ground surface; and

(ii) Soils between the tank and monitoring wells shall consist of gravel, coarse to medium sands, or other permeable materials with a hydraulic conductivity of not less than 0.01 centimeters per second.

(c) Continuous vapor monitoring in the unsaturated soil zone of all elements of the facility, using sufficient sampling points to detect a leak or discharge of oil from any point in the facility. Vapor monitoring must meet the following requirements:

(i) The method shall test for oil vapors or tracer compounds within the soil gas of the excavation zone;

(ii) Materials used as backfill are gravel, sand or crushed rock and are sufficiently porous to readily allow diffusion of vapors from leaks or discharges into the excavation area, with a hydraulic conductivity of 10^{-3} cm/second or greater;

(iii) The stored oil product or any tracer compound placed in the facility, is sufficiently volatile to result in a vapor level that is detectable by the monitoring devices located in the excavation zone. All tracer compounds shall be approved by the Commissioner prior to use.

(iv) The measurement of vapors by the monitoring device is not rendered inoperative by the ground water table, rainfall, or soil moisture or other known interferences so that a leak or discharge could go undetected for more than 30 days. The ground water table shall be below the tank or piping excavation zone.

(v) The level of background contamination in the excavation zone or elsewhere in close proximity to the facility will not interfere with the method used to detect leaks or discharges.

(vi) The facility's excavation zone is assessed by a Maine certified installer or the equipment manufacturer's representative to ensure compliance with the suitability requirements above in this paragraph, and to establish the number and locations of vapor monitoring wells or ports such that leaks or discharges will be detected from any portion of the facility that routinely contains product. At a minimum one vapor monitoring well shall be located within five (5) feet of each pump and dispenser, and at each end of each tank.

(vii) Vapor monitoring wells or ports are clearly marked and secured to avoid unauthorized access or tampering.

(viii) All monitoring components shall meet manufacturer's specifications and shall be installed according to manufacturer specifications.

(d) Automatic tank gauging that can detect a 0.2 gallon per hour loss, plus daily product inventory conducted in accordance with Section 5(D) of these rules. To detect a leak or discharge from piping not installed in accordance with Section 5(B)(2), one of the methods listed below in paragraph C(2)(e) of this section shall also be implemented.

(e) When an existing tank is to be monitored for leaks by ground water monitoring wells or in-tank gauging, associated existing piping shall be monitored for leaks using one of the following methods:

(i) Continuous vapor monitoring in accordance with the provisions of this rule;

(ii) Secondary containment with interstitial space monitoring;

(iii) For pressurized piping, retrofit with an automatic in-line leak detector and one of the leak detection methods described in (i) or (ii) above, or an annual piping line tightness test; or

(iv) Replacement with self monitoring suction piping designed and installed in accordance with requirements for new and replacement piping contained in this section and Appendix E.

(f) Where only existing piping requires leak detection, one of the following methods shall be used:

(i) Continuous vapor monitoring;

(ii) Secondary containment with interstitial space monitoring; or

(iii) For pressurized piping, retrofit with an automatic in-line leak detector, and one of the leak detection methods described in (i) or (ii) above or an annual piping line tightness test; or

(iv) Replacement with self monitoring suction piping designed and installed in accordance with requirements for new and replacement piping contained in this Section and Appendix E.

(g) Other leak detection systems approved by the Commissioner that can detect a 0.2 gallon per hour leak rate or a leak of 150 gallons within 30 days of occurrence with a 95 percent probability and a five (5) percent chance of false alarm, as determined by an independent testing laboratory using standard U.S. Environmental Protection Agency (EPA) test protocols.

(3) Overfill and spill prevention equipment shall be retrofitted at all facilities constructed of fiberglass, cathodically protected steel or other non-corrosive materials approved by the Commissioner in accordance with Section 5(B) by December 1, 1993.

(4) Facilities that do not comply with the retrofitting requirements of this subsection shall cease operation on the date upon which retrofitting was required, and close in accordance with section 11 of this rule.

D. Monitoring, maintenance and operating procedures for existing, new and replacement facilities

(1) Daily inventory requirements. The owner or operator of facilities used for the storage of motor fuel or for the marketing and distribution of oil shall maintain and reconcile daily inventory for each day that oil is being added to or withdrawn from the facility or tank. Double-walled tanks with interstitial space monitoring meeting the requirements of Section 5(B)(2) are exempt from maintaining daily product inventory.

(a) Daily inventory shall be conducted so as to be able to detect a leak or discharge of at least 1.0.5% of throughput on a monthly basis and shall include all the following:

(i) The daily measurement of product and water levels in each tank for each day product is added or removed. Measurement of product levels may be made by a stick gauge reading. Water level measurements may be made by using water paste and a gauge stick. Electronic or mechanical level measuring devices which measure product and water levels are also acceptable. Product level and water levels are to be measured to the nearest one-eight of an inch (1/8").

(ii) The measurement of product levels, before and after any deliveries.

(iii) Product dispensing is metered and recorded within Maine Department of Agriculture's weight and measure standards or an accuracy of six (6) cubic inches for every five (5) gallons of product withdrawn.

(iv) Daily reconciliation of tank measurements and pump meter readings shall be performed to determine daily loss or gain of product. The reading of pump meter readings and product delivery receipts shall not in itself constitute adequate inventory records.

(v) A log book shall be kept at the facility which includes each measurement and the initials of the individual taking and recording the pump meter readings and the actual product and water level measurements.

(b) All inventory data shall be summarized monthly and shall include the total cumulative loss or gain for the preceding month.

NOTE: See Appendix I for an example of a daily inventory data sheet. Practices described in the American Petroleum Institute Publication 1621, "Recommended Practice for Bulk Liquid Stock Control at Retail Outlets", may be used, where applicable, as guidance in meeting the daily inventory requirements of this rule.

(c) All inventory data and summaries shall be retained for a period of at least three (3) years either at the facility or at the facility owner's place of business and available to the Department's employees or authorized representatives and to municipal officials upon request.

(2) Statistical Inventory Analysis

(a) The owner of each tank used for the storage of motor fuel or the marketing and distribution of oil shall be responsible for having an annual statistical inventory analysis

performed for each of his tanks, and reporting the results of the analysis to the Commissioner on or before July 1 of each year for those facilities located in a municipality whose first letter is A-L, and before October 1 of each year for those facilities located in a municipality whose first letter is M-Z and on or before that date annually thereafter. An annual statistical analysis conducted to meet the requirements of subsection 5 C(2)(a) may be used to comply with the requirements of this paragraph. Annual statistical inventory analysis is not required for double-walled tanks equipped with interstitial space monitoring.

Such an analysis shall include an evaluation of the various sources of error present in daily inventory records, including the following:

(i) identifying and removing large measurement errors;

(ii) identifying unrecorded additions or removals of oil;

(iii) detecting errors in metering oil from the tank;

(iv) estimating the potential for temperature differential to induce spurious trends or conceal real trends;

(v) establishing that residual errors contain no systematic components and reflect on the normal errors of measurement;

(vi) evaluating the quality of the data provided and the adequacy of operator procedures to detect leaks if present;

(vii) identifying persistent daily physical loss which could be consistent with leakage; and

(viii) determining values and dates for any delivery errors and any unexplained one time gains or losses.

(b) The report of the results of the analysis shall also contain the following facility information:

(i) Name of the facility;

(ii) Municipality in which the facility is located;

(iii) Name of the owner;

(iv) Registration numbers assigned by the Commissioner to the facility and to the tanks;

(v) Certification by tank owner and the agent conducting the analysis that the results are true and accurate to the best of his or her knowledge; and

(vi) Dates of inventory data used in the analysis.

(c) The requirement for statistical inventory analysis shall only be met if the inventory records submitted are capable of being analyzed with conclusive results. The following attributes shall constitute cause for invalidation of an analysis:

(i) Excessively large and other clearly erroneous measurements of inventory-on-hand;

(ii) Excessively large unexplained removals or additions of product;

(iii) Failure to take daily readings of inventory-on-hand;

(iv) Excessive data recording errors; or

(v) Evidence of the use of an incorrect conversion chart or persistent faulty gauging.

(d) A statistical inventory analysis resulting in an inconclusive finding due to poor quality product inventory readings, pump error, tank tilt or other reasons shall be redone, following correction of likely errors, using new daily inventory data and submitted to the Commissioner within 75 days of receipt of the initial statistical analysis.

(e) All tank owners shall maintain at the facility or the owner's place of business for a period of 3 years the results of all annual statistical inventory analysis for each underground storage tank. These results shall be made available to the Department of Environmental Protection employees or authorized representative and to municipal officials upon request.

(f) Only statistical inventory analyses by methods meeting the definition and performance standards of Section 3 (TT) shall be accepted by the Commissioner.

(3) Operation and Monitoring Requirements for Galvanic Cathodic Protection Systems

(a) All galvanic cathodic protection systems shall be operated and maintained to continuously provide adequate corrosion protection to the metal components of the facility routinely storing or containing oil, and in a manner that ensures that no leaks occur during the operational life of the facility. Adequate corrosion protection shall be indicated by a cathodic protection test reading of at least negative 0.85 volts. Steel composite tanks without secondary containment and continuous interstitial space monitoring shall comply with this requirement.

(b) All cathodically protected tanks and piping shall have an accurate structure to soil potential reading performed by a qualified cathodic protection tester upon installation or repair and annually thereafter.

(c) When repairs to the cathodic protection systems are made or underground work is performed at the site, the cathodic protection shall be monitored 6 to 12 weeks after such work has been completed, to assure that the system is functioning properly.

(d) Monitoring shall be performed in accordance with the requirements of Appendix A.

(e) Repairs of a galvanic cathodic protection system shall be completed by a Maine Certified Underground Oil Tank Installer.

(f) The results of all monitoring and repairs shall be kept in a logbook at the tank owner's place of business or at the facility.

(4) Monitoring Requirements for Impressed Current Cathodic Protection Systems

(a) All impressed current cathodic protection systems shall be operated and maintained to continuously provide adequate corrosion protection to all underground metal components of the facility routinely storing or containing oil, and in a manner that ensures that no leaks occur during the operating life of the facility. Adequate corrosion protection shall be indicated by a cathodic protection test of at least a negative 0.85 volts.

(b) A monthly inspection shall be performed of the rectifier meter on all facilities utilizing the impressed current system of corrosion protection. All readings and repairs shall be recorded in a log book which must be kept at the owner's place of business or at the facility for a period of at least 3 years.

(c) A cathodic protection tester shall measure the structure to soil and structure-to-structure potentials, the rectifier voltage and current output as part of an on-site test and inspection at least once per year.

(d) Repairs to an impressed current cathodic protection system shall be supervised by a corrosion expert.

NOTE: National Association of Corrosion Engineers Standard RP-02-85, "Control of External Corrosion on Metallic Buried, or Partially Buried, or Submerged Liquid Storage Systems", may be used as guidance to comply with this subsection.

(5) Operation, maintenance and testing of in-line leak detectors. In-line leak detection devices shall be maintained to properly operate in accordance with this rule at all times while the piping contains oil. All in-line leak detectors shall be tested for proper operation in accordance with manufacturer's instructions upon installation and at least once each calendar year thereafter. Tests of in-line leak detectors shall be conducted by a manufacturer trained representative of the owner, qualified tank testing professional or a certified underground oil storage tank installer. Improperly operating leak detectors shall be repaired or replaced by a certified underground oil storage tank installer, the manufacturer's representative or manufacturer trained representative of the owner within 30 days. A log of all tests, maintenance, and repairs shall be maintained by the owner at the facility or the owner's place of business for a period of at least three (3) years.

(6) Overfill and Spill Prevention

(a) All product deliveries shall be monitored at all times by a representative of the owner, operator or oil transporter to who must be physically present except where an automatic shutoff device is installed and operating on the tank in accordance with this rule.

(b) Operation, maintenance and testing of overfill and spill prevention equipment. All overfill and spill prevention equipment shall be maintained to properly operate at all times while the facility is in operation, and in accordance with the requirements of this rule. Overfill and spill prevention alarms and shutoff systems shall be tested at least annually and recalibrated, if necessary, in accordance with manufacturer's instructions. Testing and recalibration shall be conducted by a manufacturer trained representative of the facility owner or operator, a Maine Certified Underground Oil Tank Installer or an authorized representative of the manufacturer. Repairs of automatic overfill and spill prevention alarm and shutoff systems shall be done by a Maine Certified Underground Oil Storage Tank Installer, a manufacturer trained and certified representative of the owner or the manufacturer's representative within 30 days. A log recording all tests, maintenance and repairs shall be maintained by the owner at the facility or the owner's place of business for three (3) years. Spill catchment basins shall be inspected and, if necessary, cleaned before each product delivery.

NOTE: Underground Tanks and facilities with more than 42,000 gallons capacity are required to maintain a Spill Prevention Control and Countermeasure Plan (SPCC Plan) in accordance with U.S. Environmental Protection Agency regulations, 40 CFR, Part 112.

(7) Operation, maintenance and testing of leak detection equipment. All leak detection equipment shall be maintained to operate at all times while the facility contains oil, and in accordance with the performance standards of this rule and the manufacturer's instructions. Continuous, automated or electronic leak detection equipment shall be tested at least annually and, if needed, recalibrated. Testing and recalibration shall be conducted in accordance with the manufacturer's instructions by either a manufacturer trained representative of the facility owner or operator, a Maine certified underground oil storage tank installer or an authorized representative of the manufacturer. Repairs of continuous, automated or electronic leak detection equipment shall be conducted by a Maine certified underground oil storage tank installer, a manufacturer trained and certified representative of the owner, or the manufacturer's representative within 30 days. A log of all tests, maintenance and repairs shall be maintained by the owner at the facility or the owner's place of business for a period of three (3) years and be available for inspection by personnel and authorized agents of the Commissioner.

(8) Precision Testing

(a) When annual precision testing of a facility is relied upon to comply with the leak detection requirements of Section 5(C)(2) for an existing facility, the precision test results shall be maintained by the owner at the facility or the owner's place of business for a period of three (3) years and be available for inspection by personnel and authorized agents of the Commissioner.

(b) The Commissioner may require precision testing as defined in this rule of all tanks and piping at a facility showing evidence of a possible leak, as defined in Section 5(D)(9) below.

(c) Results of all precision tests conducted in accordance with the requirements of this paragraph, the leak detection requirements of Section 5(C)(2)(a), or wherever required by this rule, must be submitted to the Commissioner or his representative by the facility owner and the person who conducted the test.

(9) Evidence of a Leak

(a) Evidence of a leak shall include, but not be limited to, any one of the following:

(i) A positive analysis for oil or evidence of oil in a ground water monitoring well or monitoring results from any leak detection equipment or method indicating a possible leak, release or discharge;

(ii) Any sheen or other visual or olfactory evidence of oil found in a monitoring well, or in water or soil in a tank or piping excavation or a test pit;

(iii) Any unexplained loss or gain of .5 percent of the throughput of each storage system over a 30 day period, as indicated by the recording and reconciliation of daily inventory records;

(iv) Failure of a piping line tightness test, as defined in Section 3(JJ) or a tank tightness test as defined in Section 3(UU), which indicate a leak of 0.1 gallons per hour or greater;

(v) Failure of a precision test as defined in Section 3 (LL), other than a piping or tank tightness test which indicates a loss or gain of 0.1 gallons per hour or great;

(vi) Unexplained losses detected through a statistical analysis of inventory records or an indication in the statistical inventory analysis that the inventory data provided were insufficient to perform an accurate analysis;

(vii) The excessive accumulation of water in a tank, evidenced by a rise in water level of greater than one-half of an inch (1/2") for an eight (8) to 12 hour period, except where the cause of the water accumulation is due to stormwater runoff intrusion and promptly corrected;

(viii) Reduced flow in a remote pumping system equipped with an in-line leak detector;

(ix) Pump hesitation, vibration, meter stripping or air elimination, attributable to a loss of prime for product lines which operate under a suction system;

(x) Discovery of oil off-site of a facility on or under abutting properties, including nearby utility conduits, sewer lines, buildings, drinking water supplies, ground water and soil;

(xi) Evidence of the presence of oil or water entering into the interstitial space of a secondary containment facility, or a significant drop in the liquid level of a hydrostatically monitored interstitial space. as specified by the tank or leak detection equipment manufacturer's instructions; and

(xii) Any actual leaks or discharges of oil found on the premises, including, but not limited to, spills, overfills and leaks, whether or not cleaned up.

(10) Product compatibility. Only oil and petroleum products chemically and physically compatible with the materials from which the tank, piping and other components of the facility routinely containing product are constructed, may be stored. Prior to storing alcohol blended fuel exceeding 10 percent alcohol in fiberglass tanks or piping, the owner must contact the tank and piping manufacturers to determine its long-term compatibility with the composition of the fiberglass resins. Written documentation of product compatibility for alcohol blended fuel and a fiberglass facility shall be maintained at the owner's place of business or the facility.

(11) Leak or Discharge reporting requirements

(a) A tank owner or operator shall report to the Commissioner as soon as possible, but no later than within 24 hours any evidence of a leak or discharge of oil, including but not limited to those listed in Section 5(D)(9).

(b) A certified underground tank installer or remover finding evidence of a leak or discharge of oil must report it to the facility owner or operator, and the Commissioner, as soon as possible, but no later than within 24 hours of discovery.

NOTE: TO REPORT A LEAK, SPILL OR OTHER DISCHARGE OF OIL, CALL TOLL FREE 1-800-482-0777.

(c) Notwithstanding the above, discharges of 10 or less gallons of oil that occur above the surface of the ground, and not reaching ground water or surface waters of the State need not be reported to the Commissioner if the owner or operator complies with all of the following requirements:

(i) The discharge is fully cleaned up within 24 hours of discovery.

(ii) A written log is maintained at the facility or the owner's place of business in Maine recording for each discharge the date of discovery, its source, the general location of the discharge on the facility, the date and method of cleanup, and the signature of the facility owner or operator certifying the accuracy of the log.

(iii) The spill log shall be readily available for inspection by personnel and authorized agents of the Commissioner.

(d) Pursuant to Title 38 M.R.S.A., Section 568 (4), any person who causes or is responsible for a discharge to ground water shall not be subject to any fines or civil penalties for the discharge if the person promptly reports and removes that discharge in accordance with the rules and orders of the Commissioner, and the Board.

(12) Manual sampling of ground water monitoring wells

(a) Where monitoring wells have been installed at an underground oil storage facility and are intended to meet the leak detection requirements of Section 5(C), the owner or operator must sample those wells weekly by withdrawing a sample from each monitoring well on site and examining the sample visually for a sheen or other evidence of oil, and by smelling the sample for the odor of "oil." Weekly sampling shall be performed in accordance with the procedures required in Appendix H.

(b) Records of each sampling shall be maintained in a log book at the facility for a period of three (3) years. The log book shall include the date and time of sampling, the initials of the person performing the sampling, and a record of the inspection of all monitoring well samples. The log book shall be available upon request to any Department of Environmental Protection employee, agent or authorized representative and to any municipal official.

NOTE: A sample log sheet is provided in Figure 3 of Appendix H.

(c) Upon discovery of any evidence of a possible leak as defined in Section 5(D)(9) of this rule, the owner of the tank shall cause notice to be given to the Commissioner as soon as possible but not later than 24 hours from the time of discovery. The tank owner shall then obtain samples from all ground water monitoring wells for laboratory analysis in accordance with the procedures required in Appendix H. Investigation and corrective action requirements of Section 12 of this rule shall be followed.

(d) Where laboratory analysis is required, all monitoring wells shall be sampled and the samples analyzed for the presence of methyl tertiary butyl ether (MTBE), benzene and total gasoline or total fuel oil in accordance with Department laboratory methods by a laboratory with a detection limit of no greater than 10 ppb total gasoline, 20 ppb MTBE, 5 ppb benzene and 50 ppb total fuel oil. Other comprehensive hydrocarbon laboratory methods may be used with prior approval by the Commissioner. The monitoring wells shall be sampled and all samples shall be handled in conformance with the requirements contained in Appendix H. The results of all hydrocarbon analysis shall be maintained at the facility for a period of not less than three (3) years. The detection of hydrocarbons in concentrations which are greater than the above detection limits shall be reported to the Commissioner by the facility owner or operator as soon as possible, but not later than 24 hours from the time of discovery.

(13) Manual interstitial space monitoring

(a) Where secondary containment is provided for leak detection without continuous monitoring, the owner or operator shall sample the interstitial space once per week for evidence of a leak or discharge of oil, and the inflow of ground water.

(b) The interstitial space of double walled tanks shall be monitored in accordance with the instructions of the tank or leak detection equipment manufacturer.

(c) When piping with secondary containment sloped to a monitoring sump or man-way has been installed, the owner or operator shall physically check the man-way or sump weekly for visual evidence of oil.

(d) For facilities where secondary containment is provided by an excavation liner, the monitoring wells shall be sampled weekly for evidence of a leak or discharge in accordance with the procedures for monitoring well sampling outlined in Section 5(D)(112).

(e) A record of each sampling event shall be maintained in a log book at the facility or the owner's place of business and for a period of at least three years. The log shall include the date and time of each sampling, what was found, and the initials of the person doing the sampling. The log book shall be available for inspection by personnel or authorized agents of the Commissioner.

(14) Interior relining of new and existing facilities

(a) Tanks may be relined provided that prior to lining the tank has passed a precision test and is free of perforations, except that fiberglass tanks which have failed may be relined or repaired if the cause of the failure will be completely repaired to the satisfaction of the Commissioner and a warranty is provided by the person performing the repairs. The warranty shall be for a minimum of ten (10) years and shall warranty the tanks against internal and external corrosion and structural failure. A fiberglass tank that once failed a precision test, was subsequently lined, shall be precision tested prior to going back into operation. In a case where a fiberglass tank with a leak is lined the tank shall be properly abandoned pursuant to the requirements contained in Section 11 of this rule upon expiration of the warranty.

(b) The following requirements shall also apply to relining activities:

(i) After relining, fiberglass tanks must pass a precision test;

(ii) The material which is used as a liner must be compatible with the product to be stored in the tank;

(iii) The lining procedure must be performed in accordance with the procedures outlined in American Petroleum Institute Recommended Practice No. 1631;

(iv) Piping shall not be relined; and

(v) The owner of the facility shall amend the facility's registration in accordance with Section 4(N) of this rule and maintain records of relining for the remaining operating life of the lined tank that demonstrate compliance with this paragraph.

(15) Repairs other than relining

(a) Repairs are allowed in accordance with this paragraph to tanks and piping constructed of fiberglass, cathodically protected steel and other non-corrosive materials approved by the Commissioner.

(b) Repairs allowed of tank and piping not constructed of fiberglass, cathodically protected steel or other noncorrosive materials approved by the Commissioner are limited to

correcting loose fittings and joints. Repairs of corrosion induced leaks are prohibited. Steel tanks and piping with corrosion induced leaks must be closed in accordance with Section 11 of this Rule.

(c) Repairs to fiberglass, cathodically protected steel and other approved noncorrosive material tanks and piping must be properly conducted by a Maine certified underground tank installer or by the manufacturer's authorized representative.

(d) Tank and piping repairs are to be conducted in accordance with manufacturer specifications or in accordance with the National Fire Protection Association Standard 30, "Flammable and Combustible Liquids Code".

(e) Repairs jeopardizing the manufacturer's original warrantee are prohibited.

(f) Repaired tanks and piping shall be precision tested before going back into operation, except where the repair only included tightening of a loose union, coupling or flexible connector.

(g) Repairs to a cathodic protection system shall be conducted in accordance with the National Association of Corrosion Engineers recommended Practice 02-85. Repairs to a galvanic cathodic protection systems shall be conducted by a certified installer. Repairs to an impressed current, cathodic protection system shall be supervised by a corrosion expert.

(h) Within six (6) to twelve (12) weeks of a repair to a cathodic protection system, the owner or operator must have a test of the system in accordance with Appendix A, conducted by a cathodic protection tester.

(i) Owners must maintain records of each repair of the type listed in this paragraph for the remaining life of the facility.

(16) Financial responsibility requirements

(a) The owner or operator of a new, replacement or existing tank or facility shall demonstrate to the Commissioner that the owner or operator has the ability to assure the costs of corrective action and for compensating third parties for bodily injury, property damage and loss of income caused by sudden and non-sudden releases , leaks or discharges from an underground oil storage facility.

(b) Owners or operators shall maintain an ability to assume financial responsibility in accordance with this rule in at least the following per-occurrence amounts.

(i) Owners or operators of all marketing or distribution facilities and motor fuel facilities that handle an average of more than 10,000 gallons of oil per month based on the previous year's throughput shall maintain $1 million.

(ii) All other owners or operators of marketing, distribution and motor fuel underground oil storage facilities shall maintain $500,000.

(c) Owners or operators shall maintain an ability to assume financial responsibility in accordance with this rule in at least the following annual aggregate amounts.

(i) For owners or operators of one (1) to 100 tanks, $1 million; and

(ii) For owners or operators of 101 or more tanks, $2 million.

(d) The amounts of assurance required under this Section exclude legal costs.

(e) A facility owner or operator may use any one or combination of the financial responsibility mechanisms listed below in meeting the requirements of subparagraphs a through d above and of the U.S. Environmental Protection Agency's financial responsibility requirements for underground storage tanks containing petroleum.

(i) Self insurance when meeting the financial test of self insurance in 40 CFR, PART 280.95

(ii) Guarantee meeting the requirements of 40 CFR, Part 280.96;

(iii) Liability insurance or risk retention group coverage meeting the requirements of 40 CFR, Part 280.97;

(iv) Surety bond meeting the requirements of 40 CFR, Part 280.98;

(v) Letters of credit meeting the requirements of 40 CFR, Part 280.99;

(vi) Trust fund meeting the requirements of 40 CFR, Part 280.102; or

(vii) The Maine Ground Water Oil Cleanup Fund in accordance with the eligibility requirements and financial assurance limits of Title 38 MRSA, subsections 568-A and 569, in combination with one or more of the other above mechanisms to assure full coverage of third party damage liability in accordance with the minimum financial assurance requirements of section 5(D)(16)(a) and 5(D)(16)(b) above.

(f) An owner or operator may replace one financial assurance mechanism for another, provided that at all times the owner or operator maintains an effective financial assurance mechanism or combination of mechanisms that satisfy the requirements of this paragraph.

(g) Financial assurance mechanisms may be canceled or not renewed in accordance with 40 CFR, Part 280.105.

(h) The facility owner or operator shall maintain financial responsibility records at the facility or at the owner's place of business in accordance with 40 CFR Part 280.17.

(i) In the event of bankruptcy or other financial responsibility incapacity of the facility owner or operator, or a provider of financial assurance; the notification and financial responsibility replacement requirements of 40 CFR, Part 280.110, shall be met.

(j) An owner or operator is no longer required to maintain financial responsibility under this rule after a tank or facility has been properly closed in accordance with Section 11 of this rule, and if corrective action is required by the Commissioner, after the corrective action has been completed to the Commissioner's satisfaction and in accordance with Section 12. and other rules or orders of the Commissioner and Board.

(17) No oil product shall be stored in a facility of a design or construction with which it is not chemically or physically compatible.

E. Facility closure and abandonment. The closure, abandonment, or temporary discontinuance of service of a facility or any part thereof shall be conducted in accordance with the requirements of Section 11 of this rule.

6. Regulation of Heating Oil Facilities Used for Consumption on the Premises or by the Owner or Operator

A. Applicability

(1) This section shall apply to all underground heating oil or process oil storage facilities used for consumption on the premises or by the owner or operator of the facility.

(2) This section of the rules does not apply to motor fuel, marketing, distribution facilities, waste oil facilities, field constructed tanks; or heavy oil facilities except where specifically stated otherwise.

B. Design and installation requirements for new and replacement facilities

(1) General design requirements.

(a) The installation of new or replacement tanks and piping constructed of bare steel or asphalt coated steel is prohibited.

(b) All new and replacement tanks shall be constructed of fiberglass reinforced plastic (hereafter referred to as fiberglass), cathodically protected steel, or other non-corrosive material approved by the Commissioner. Piping and other below ground ancillary equipment in contact with soil shall be constructed of fiberglass, cathodically protected steel or other equally non-corrosive materials approved by the Commissioner.

(i) It shall be the responsibility of the facility owner to demonstrate to the satisfaction of the Commissioner that the materials are non-corrosive and meet or exceed the required performance standards. listed below in this paragraph.

(ii) All new or replacement facilities shall be listed and constructed in accordance with the standards contained in the following:

Steel tanks - Underwriters Laboratories 58 and 1746;

Fiberglass Tanks - Underwriters Laboratories 1316;

Cathodically Protected Tanks and Piping - National Association of Corrosion Engineers RP-02-85; Underwriters Laboratories Canada S603.1 M 1982; or Steel Tank Institute (STI) Tank Standard R892-89.

Composite Tanks - Association for Composite Tanks Act-100 , UL 1746 or Steel Tank Institute (STI) Composite Tank Standard (F894-89);

Fiberglass and Non-metallic Piping - Underwriters Laboratories of Canada Guide ULC-107; or Underwriters Laboratories Subject 971;

Pipe Connectors - Underwriters Laboratories Standards 567;

Flexible Connectors - Underwriters Laboratories of Canada Standard CAN 4-S633-M84; and

Steel Piping - National Fire Protection Association Standards 30 or 31, American Petroleum Institute Publication 1632, or National Association of Corrosion Engineers Standard RP-01-69.

NOTE: Fiberglass clad steel and other steel composite tanks need not be provided with galvanic or impressed current cathodic protection if designed and constructed with secondary containment and interstitial space monitoring in accordance with standards of this subsection.

(iii) Impressed current cathodic protection systems shall be designed by a corrosion expert and according to standards described in the National Corrosion Engineers Recommended Practice 02-85, and installed under the surveillance of a corrosion expert or by a Maine certified underground oil storage tank installer.

(c) No used or previously installed fiberglass or cathodically protected tanks or piping may be re-installed, unless the owner has supplied the Commissioner with documentation that the manufacturer will warranty the tanks or piping against internal and external corrosion and structural failure, for a period of at least ten (10) years, after which the tank(s) or piping must be properly abandoned in accordance with the requirements of Section 11 of this rule.

(d) All facility construction materials shall be chemically and physically compatible with the product to be stored.

(2) Leak detection. All new and replacement facilities shall be designed to provide secondary containment for all facility components routinely containing product, including tanks, product piping and below ground ancillary equipment. New and replacement tanks and product piping shall have continuous interstitial space monitoring. Interstitial space monitoring for heating oil facilities shall be able to detect a leak from the primary containment structure of at least 0.2 gallons per hour or 150 gallons within 30 days of a leak or discharge with a 95 percent probability of detection and a five (5) percent probability of false alarm, as determined by an independent testing laboratory using U.S. Environmental

Protection Agency approved protocols. For facilities with a secondary containment within the tank or piping excavation; the secondary containment system shall be designed in accordance with Appendix O.

(3) Overfill and spill prevention equipment. New and replacement tanks with a capacity in excess of 1,100 gallons shall prevent overfills and spills by the installation of the following spill and overfill prevention equipment.

(a) A liquid tight spill catchment basin of a minimum capacity of three (3) gallons for each tank fill, which is sealed around the fill pipe and will collect any spillage during product delivery; and

(b) Overfill prevention equipment that will automatically shutoff flow into the tank when the tank is no more than 95 percent full, or alert the transfer operator when the tank is no more than 90 percent full by restricting flow into the tank or triggering a high-level audible alarm.

NOTE: The use of vent float valves is discouraged on a tank which will receive pressurized oil deliveries because of the danger of rupturing the tank.

(4) General installation requirements for new and replacement facilities.

(a) No underground oil storage facility or tank may be installed unless the facility has been registered in accordance with Section 4 of this rule.

(b) No person may install an underground oil storage facility or a portion thereof unless that person is a properly certified underground oil storage tank installer with the appropriate class of certification in accordance with Title 32 MRSA, sections 10001-10015, and has paid the required certification fee.

(c) No certified underground oil storage tank installer may install an underground storage tank if the installer has been placed on inactive status or if the installer's certification has been suspended or revoked pursuant to 32 MRSA, section 10015, and has not been reinstated.

NOTE: No person may connect an underground storage tank used to store heating oil to a boiler or furnace unless that person is a Master Oil Technician, or a Journeyman working under the supervision of a Master Oil Technician, licensed by the Oil and Solid Fuel Board, pursuant to Title 32 MRSA, sections 2311-2406, and rules administered by the Oil and Solid Fuel Board.

(d) If a tank is replaced, all associated underground piping not meeting the design requirements of this rule shall be replaced. Any replacement piping shall be designed and installed in accordance with this rule. If product piping is replaced and structural damage to the associated tank has occurred, impairing its physical integrity, the associated tank shall also be replaced if not constructed of fiberglass, cathodically protected steel, or other noncorrosive materials approved by the Commissioner. Repairs of damaged fiberglass, cathodically protected steel, and other Commissioner approved

non-corrosive material tanks may only be made if conducted in accordance with Sections 5(D)(14) or (15). Tanks that can not be repaired shall be abandoned in accordance with Section 11.

(e) All galvanic cathodic protection systems shall have an accurate structure to soil potential measurement performed in accordance with Appendix A by a cathodic protection tester upon installation.

(f) All phases of the installation of an impressed current cathodic protection system shall be supervised on-site by a corrosion expert. The tank, piping and other portions of the facility other than the impressed current system may be installed by a Maine certified underground oil storage tank installer without such supervision.

(g) No underground oil storage tank or piping shall be installed within one (1) foot of the bedrock surface.

(h) Leak detection and overfill/spill prevention alarms and shutoff equipment shall be installed prior to the start of the facility's operation and in accordance with manufacturer specifications, including proper calibration of electronic equipment.

(i) Certification of proper installation. Owners of new and replacement facilities shall ensure that the installer(s) provide(s) certification to the Commissioner within 30 days of completion of installation that the facility's materials, design and installation are in compliance with the requirements of this rule. This certification shall be provided in writing on a form provided by the Commissioner.

(5) Installation requirements for new and replacement tanks

(a) All tanks shall be installed in conformance with the requirements contained in Appendix D of this rule.

(b) All tanks shall be installed in accordance with the manufacturer's instructions.

(6) Installation requirements for new and replacement piping.

(a) All underground piping in contact with soil shall be installed in conformance with the requirements contained in Appendix E, except that pressurized airport aviation fuel hydrant piping shall also be installed in accordance with Section 10.

(b) All underground piping in contact with soil shall be constructed of fiberglass, cathodically protected steel or other non-corrosive materials which may be approved by the Commissioner.

(i) For #1 and #2 heating oil facilities, copper piping meeting the requirements of National Fire Protection Association Code 31, Installation of Oil Burning Equipment, may be used for supply and return lines when all connections between a steel tank and the copper piping incorporate dielectric fittings that electrically isolate the tanks from the piping, and when a continuous unbroken run of piping is utilized.

(ii) Schedule 40 PVC (polyvinyl chloride) piping may be used for secondary containment for #2 heating oil facilities if it is at least twice the diameter of the internal piping.

(iii) When installing copper piping inside fiberglass, PVC or other piping to provide secondary containment, supply and return lines shall be provided with spacers to separate the lines and prevent wear due to vibration and friction.

NOTE: Primary pipe spacers can be provided by using 6-inch lengths of 1/4 inch thick polyethylene foam tubing insulation placed every 10 feet of pipe.

(iv) It shall be the responsibility of the facility owner to demonstrate to the satisfaction of the Commissioner the materials are non-corrosive.

(v) All new or replacement non-metallic piping shall be listed by Underwriters Laboratories and installed in accordance with manufacturer instructions. Cathodically protected piping shall be constructed and installed in conformance with the National Association of Corrosion Engineers, Recommended Practices, Publication No. 02-85, or Steel Tank Institute (STI) Standard RP 892-89.

C. Operation, maintenance and testing requirements for new, replacement and existing facilities

(1) The owner or operator shall report any evidence of a leak, as defined in Section 5(D)(9) of this rule, or other evidence of a discharge to the Commissioner within 24 hours from the time of discovery. A certified underground tank installer or remover finding evidence of a leak or oil discharge must report it to the facility owner or operator, and the Commissioner, as soon as possible, but no later than within 24 hours of discovery. Not withstanding the above, discharges of 10 or less gallons of oil that occur above the surface of the ground, and not reaching ground water or surface waters of the State need not report to the Commissioner if the owner or operator complies with all of the following requirements:

(a) The discharge is cleaned up within 24 hours of discovery.

(b) A written log is maintained at the facility or the owner's place of business in Maine recording for each discharge the date of discovery, its source, the general location of the discharge on the facility, the date and method of cleanup, and the signature of the facility owner or operator certifying the accuracy of the log.

(c) The log shall be readily available for inspection by personnel and authorized agents of the Commissioner.

NOTE: To report a leak or discharge at any time 24 hours a day, seven (7) days a week call 1-800-482-0777.

(2) If a facility has a cathodic protection system, it shall be operated, monitored and maintained in accordance with Section 5(D)(3) or (D)(4) of this rule.

(3) For existing facilities with ground water monitoring wells for leak detection, the monitoring wells shall be sampled weekly and results recorded in a log book pursuant to Section 5(D)(12).

(4) The owner or operator of an existing facility with leak detection equipment other than ground water monitoring wells, shall test for leaks weekly and maintain a log at the facility, including the date, the presence or absence of evidence of a leak or discharge and the name of the individual conducting the test. Automated or electronic leak detection equipment at existing facilities shall be maintained in proper operating condition at all times, and tested and calibrated at least annually in accordance with the manufacturer's instructions by a properly trained representative of the owner or operator, by a certified underground oil storage tank installer or by a representative of the manufacturer. Equipment test and calibration results shall be recorded and maintained at the facility. Repairs shall be made by a certified underground tank installer, a manufacturer trained and certified representative of the owner, or a representative of the manufacturer.

(5) Continuous interstitial space leak detection monitoring equipment shall be maintained in proper operating condition, and shall be annually tested and calibrated, if needed, in accordance with the manufacturer's instructions by a trained representative of the owner or operator, a certified underground oil storage tank installer or an authorized representative of the manufacturer. Repairs shall be made by a certified underground tank installer, a manufacturer trained and certified representative of the owner, or a representative of the manufacturer.

(6) The owner or operator shall maintain the spill prevention and overfill prevention equipment operating properly at all times. Automatic alarm, flow restriction and shut off equipment shall be tested annually and recalibrated, if needed, in accordance with manufacturer instructions by a manufacturer trained representative of the owner or operator, a Maine certified underground tank installer, or an authorized representative of the manufacturer. Repairs shall be made by a certified underground tank installer, a manufacturer trained and certified representative of the owner, or a representative of the manufacturer.

NOTE: Tanks and facilities with more than 42,000 gallons capacity are required to maintain a Spill Prevention Control and Countermeasure Plan (SPCC Plan) in accordance with U.S. Environmental Protection Agency regulations, 40 CFR, Part 112.

(7) The owner or operator shall maintain a log at the facility, recording the date, results, and the individual conducting the annual tests of cathodic protection, leak detection, and overfill prevention systems. Calibration and repair records shall also be maintained in the facility log. The log shall maintain records for a period of three (3) years and be available for inspection by personnel and authorized agents of the Commissioner.

(8) No bare or asphalt coated steel tank or piping may be structurally repaired for use as part of an underground oil storage facility.

(9) Tanks may only be relined in accordance with the requirements contained in Section 5(D)(14). Repairs to tanks and piping other than relining shall be done in accordance with Section 5(D)(15) of this rule.

(10) No oil product shall be stored in a facility of a design or construction with which it is not chemically or physically compatible.

D. Facility closure and abandonment. The closure, abandonment, or temporary discontinuance of service of a facility or any part thereof shall be conducted in accordance with the requirements of Section 11 of this rule.

7. Regulation of Facilities for the Underground Storage of Waste Oil

A. Applicability

(1) These rules shall apply to any person other than a waste oil dealer who stores or proposes to store waste oil in underground tanks.

(2) Waste oil dealers are subject to the rules set forth in Chapter 860 of the Department's Regulations (Waste Oil Management Rules).

B. Design and installation standards for new and replacement facilities

(1) All tanks and associated piping used for the underground storage of waste oil shall be registered in accordance with Section 4 of this rule.

(2) The installation of new and replacement tanks constructed of bare steel or asphalt coated steel is prohibited.

(3) All new and replacement tanks shall be installed by a Class 1 or 2 underground oil storage tank installer who has been properly certified pursuant to 32 MRSA, sections 10001-10015.

(4) New and replacement waste oil tanks and associated piping shall be equipped with secondary containment with continuous interstitial space monitoring, designed and installed in accordance with Section 5 (B).

(5) Piping for a new and replacement waste oil facility supplying a waste oil furnace or boiler may not use PVC piping for secondary containment but instead shall be constructed of fiberglass, cathodically protected steel or other non corrosive materials approved by the Commissioner.

(6) Fill and removal pipes at new and replacement facilities shall be installed with an overfill collection box with a capacity of at least three (3) gallons with a liquid tight seal around the fill pipe that will collect spillage during product delivery.

(7) New and replacement underground waste oil tanks shall not be located in the following areas;

(a) Beneath a building or other permanent structure;

(b) Within 100 feet of an existing public or private drinking water supply, except where the only water supply within 100 feet is owned, operated or utilized solely by the owner or operator of the tank; or

(c) Within 25 feet of a classified body of surface water.

(8) No used or previously installed fiberglass or cathodically protected steel tank or piping may be re-installed unless the owner has provided the Commissioner with satisfactory documentation that the manufacturer will warrantee the tank or piping against internal and external corrosion and structural failure for a period of at least ten (10) years, after which the tank or piping must be properly abandoned in accordance with the requirements of Section 11 of this rule. Re-installation of a tank or piping shall require an amendment of the facility registration in accordance with Section 4(N) of this rule.

(9) Certification of proper installation. Owners of new and replacement facilities shall ensure that the installer(s) provides certification to the Commissioner within 30 days of completion of installation; that the facility's materials, design and installation are in compliance with the requirements of this rule. This certification shall be provided in writing on a form provided by the Commissioner.

C. Operation, maintenance, testing and reporting requirements for existing, new and replacement facilities

(1) All cathodically protected steel tanks, piping and other ancillary equipment shall be operated, and maintained in accordance with Section 5 (D) (3) or (D)(4), and Appendix A of this rule.

(2) Continuous interstitial space leak detection monitoring equipment shall be maintained in proper operating condition and annually tested and if necessary calibrated, in accordance with the manufacturer's instructions by a trained representative of the facility owner or operator, a certified underground tank installer or an authorized representative of the manufacturer.

(3) Ground water monitoring wells installed for leak detection and associated with existing underground waste oil tanks shall be sampled weekly in accordance with the requirements of Section 5 (D) (12). The samples shall be inspected for visual and olfactory evidence of waste oil.

(4) The owner or operator shall report promptly upon discovery to the Commissioner, any evidence of a leak, as defined in Section 5 (D) (9) of this rule, or discharge of oil. Under no circumstances shall the report be received later than 24 hours from the time of discovery of the leak or discharge. A certified underground tank installer or remover finding evidence of a leak or oil discharge must report it to the facility owner or operator, and the Commissioner, as soon as possible, but no later than within 24 hours of discovery. Not withstanding the above, discharges of 10 or less gallons of oil that occur above the surface of the ground, and not reaching ground water or surface waters of the State need not report to the Commissioner if the owner or operator complies with all of the following requirements:

(a) The discharge is cleaned up within 24 hours of discovery.

(b) A written log is maintained at the facility or the owner's place of business in Maine recording for each discharge the date of discovery, its source, the general location of the discharge on the facility, the date and method of cleanup, and the signature of the facility owner or operator certifying the accuracy of the log.

(c) The log shall be readily available for inspection by personnel and authorized agents of the Commissioner.

NOTE: To report a leak or discharge at any time, 24 hours a day, seven (7) days a week, call 1-800-482-0777.

(5) The owner or operator shall maintain a log at the facility, recording the date, results, and the individual conducting the annual tests of cathodic protection and leak detection systems. Such records shall be maintained for a period of three (3) years and be available for inspection by personnel and authorized agents of the Commissioner and municipal officials.

(6) Only waste oil tanks constructed of cathodically protected steel, fiberglass or another non-corrosive material approved by the Commissioner may be relined. Such tanks must be relined in accordance with the requirements contained in Section 5(D)(14). Repairs other than relining shall be conducted in accordance with Section 5(D)(15) of this rule.

(7) No waste oil shall be stored in a facility of a design and construction with which it is not chemically or physically compatible.

(8) Hazardous substances as defined in Title 38 MRSA, subsection 1362, shall not be added to or stored at a waste oil facility.

NOTE: The addition of degreasers, solvents and other hazardous substances to a waste oil tank may make the waste oil a hazardous waste. Hazardous wastes must be stored, manifested, transported and disposed in accordance with the Department's hazardous waste regulations (Chapters 850 through 857).

(9) All owners or operators of waste oil facilities shall provide financial responsibility coverage in accordance with the requirements of Section 5(D)(16) of this rule.

D. Closure of underground waste oil storage facilities

(1) Underground waste oil storage tanks and associated piping shall be abandoned in accordance with the requirements of Section 11 of this rule.

(8) Regulation of Field Constructed Underground Oil Storage Tanks

A. Applicability

(1) This section of the rules shall apply to all underground oil storage tanks where the primary containment structure is constructed at the location of installation and is not delivered to the installation site without further assembly required.

(2) This section applies to tanks constructed of steel, concrete, fiberglass reinforced plastic, fiberglass, and other materials.

B. Design and installation requirements for new and replacement field constructed tanks

(1) General design requirements

(a) Bare steel and asphalt coated steel tanks are prohibited.

(b) Concrete, fiberglass reinforced plastic, fiberglass and riveted steel tanks are prohibited.

(c) All new and replacement steel tanks shall be cathodically protected and coated with a suitable dielectric material. The cathodic protection system shall be designed by a corrosion expert to adequately protect all parts of a tank from corrosion by maintaining a negative structure to soil potential of at least 0.85 volts. Cathodic protection systems shall be designed in accordance with National Association of Corrosion Engineers Standard RP-02-85, "Control of External Corrosion on Metallic Buried, Partially Buried, or Submerged Liquid Storage Systems".

(d) New and replacement steel tanks shall be designed by a professional engineer in compliance with Maine's professional regulation statute, and constructed in accordance with Underwriters Laboratories Standard 1746, "Corrosion Protection Systems for Underground Storage Tanks", and American Petroleum Institute Standard 650 "Welded Steel Tanks for Oil Storage".

(e) Piping connected to field constructed tanks shall be designed and constructed in accordance with the requirements of either Sections 5, 6, 7, 9 or 10 depending on type of facility and piping system proposed.

(2) Leak detection. All new and replacement field constructed tanks shall be provided with secondary containment and continuous interstitial space monitoring. Secondary containment utilizing an excavation liner shall be designed and installed in accordance with Appendix O.

(3) Overfill and spill prevention equipment. New and replacement tanks shall prevent overfills and spills by the installation of overfill and spill prevention equipment in accordance with Section 5 (B) (3) or Section 6(B)(3) depending on facility type.

NOTE: Tanks and facilities with more than 42,000 gallons capacity are required to maintain a Spill Prevention Control and Countermeasure Plan (SPCC Plan) in accordance with U.S. Environmental Protection Agency regulations, 40 CFR, Part 112.

(4) General installation requirements

(a) No new or replacement field constructed underground oil storage tank may be installed unless the facility has been registered in accordance with Section 4 of this rule.

(b) New and replacement field constructed tanks shall be assembled and installed according to good engineering practices under the surveillance of a professional engineer registered

in Maine or otherwise working in compliance with Title 32 MRSA, section 1351, et seq. The engineer shall be responsible for supervising all phases of assembly and installation. Design and installation plans shall be submitted for the Commissioner's review and approval at least 60 days prior to tank registration and shall include, at a minimum:

(i) Secondary containment and leak detection installation details;

(ii) Overfill and spill prevention equipment installation;

(iii) Anchoring;

(iv) Excavation and backfill specifications; and

(v) Cathodic protection system installation.

(c) Installation of the cathodic protection system shall be supervised by a corrosion expert.

(d) If a tank is replaced, all associated piping not meeting the design and installation requirements of this section shall be replaced except if the piping is part of an airport hydrant piping system. If product piping attached to a field constructed tank is replaced and structural damage to the associated tank has occurred, the tank shall also be replaced if not designed and installed in accordance with this section.

(e) Certification of proper installation. Owners of new and replacement facilities shall ensure that the project engineer provides certification to the Commissioner within 30 days of completion of installation; that the facility's materials, design and installation are in compliance with the requirements of this rule. This certification shall be provided in writing on a form provided by the Commissioner.

C. Retrofitting requirements for existing motor fuel, marketing or distribution field constructed tanks

(1) Leak detection shall be retrofitted at existing field constructed tanks in accordance with section 5 of this rule.

(2) Overfill and spill prevention equipment shall be retrofitted by December 1, 1993 at all existing field constructed tanks made of fiberglass, cathodically protected steel, or other non-corrosive materials approved by the Commissioner, in accordance with section 5(B)(3) of this rule.

D. Operation, maintenance and testing requirements for new, replacement and existing tanks

(1) Tanks that are part of a motor fuel, marketing or distribution facility shall operate in accordance with the requirements of section 5(D) of this rule, except for 5(D)(1) and (2).

(2) Tanks that are part of a heating oil facility for consumptive use by the owner or operator shall operate in accordance with the requirements of section 6(C) of this rule.

(3) Tanks that are a part of a waste oil facility shall operate in accordance with the requirements of section 7(C) of this rule.

(4) Not withstanding the above, repairs shall be conducted in accordance with sections 5(D)(14) and (15), except that a repair may be designed by and conducted under the surveillance of a professional engineer in accordance with Maine's professional regulation statutes.

E. Closure and abandonment of underground field constructed oil storage tanks

(1) Tanks shall be abandoned in accordance with the requirements of section 11 of this rule, except that owners of concrete tanks larger than 20,000 gallons capacity may be granted a variance by the Commissioner from the requirement under the following conditions:

(a) An alternate method of closure or long term maintenance is proposed that is equally protective of the environment, public health, safety and welfare.

(b) Discharges of oil will be remediated to the satisfaction of the Commissioner;

(c) Public access is controlled;

(d) A notice of the presence of underground oil storage tanks is permanently attached to the deed of the parcel upon which the tanks are located, including at a minimum, a description of the tanks, their size, types of product stored, and their surveyed location; and

(e) Written notice has been provided to the local fire department having jurisdiction indicating that a variance from the Commissioner is being sought from the requirements of Section 11.

The Commissioner may approve, deny, or approve with conditions a variance under this paragraph.

(2) The owner or operator of a field constructed tank shall conduct a site assessment in accordance with the requirements of Section 11 (A) and Appendix P prior to the completion of facility closure.

9. Regulation of Facilities for the Underground Storage of Heavy Oils

A. Applicability

(1) This section applies to all underground oil storage facilities intended for storing or containing heavy oil, oil which requires to be heated during storage, including #5 and #6 oil, and as defined in Section 3(X) of this rule.

(2) This section applies to No. 4 oil storage facilities only when it must be heated during storage.

B. Design and installation requirements for new and replacement facilities

(1) General design requirements

(a) Heavy oil facilities must follow the general design requirements of heating oil facilities found in Section 6(B)(1) or Section 8(B) where proposing a field constructed tank of this rule.

(b) All facility construction materials must be physically and chemically compatible with the product to be stored, including the temperature at which the product is to be stored. Fiberglass components shall not be installed in facilities where the oil temperature will exceed 150ºF.

(2) Leak detection. New and replacement heavy oil facilities must provide leak detection in conformance with the leak detection requirements for other heating oils in section 6(B)(2) or field constructed tanks in section 8(B)(2), including secondary containment with continuous interstitial space monitoring.

(3) Overfill and spill prevention equipment requirements shall be the same as those for other heating oils contained in section 6(B)(3) of this rule.

(4) Installation requirements for new and replacement heavy oil facilities.

(a) No underground oil storage facility or tank may be installed unless the facility has been registered in accordance with section 4 of this rule.

(b) No person may install an underground heavy oil storage facility unless that person is a properly certified Class 1 underground oil storage tank installer in accordance with Title 32 MRSA, sections 10001-10015, and has paid the certification fee.

(c) No certified underground oil storage tank installer may install an underground oil storage tank if the installer has been placed on inactive status or if the installer's certification has been suspended or revoked pursuant to 32 MRSA, section 10015;

(d) If a tank is replaced, all associated underground piping not meeting the design requirements of this rule shall be replaced. Any replacement shall be designed and installed in accordance with this rule. If product piping is replaced and structural damage to the tank has occurred, the associated tank shall also be replaced if not constructed of fiberglass, cathodically protected steel, or other non-corrosive materials approved by the Commissioner. Repairs of damaged fiberglass, cathodically protected steel, and other Commissioner approved tanks may only be made if conducted in accordance with sections 5(D)(14) or (15). Tanks that can not be repaired shall be abandoned in accordance with section 11.

(e) New and replacement heavy oil facilities shall be installed in accordance with National Fire Protection Association Code 31 and the requirements of section 6(B)(4),(5) and (6) of this rule, except that the installation of copper and PVC piping is prohibited and the heating system must be electrically isolated from the cathodic protection system if a steel tank.

(f) New and replacement fiberglass tanks shall be provided with continuous product temperature monitoring equipment, installed in accordance with the manufacturer's specifications.

C. Operation, maintenance and testing requirements for new, replacement and existing heavy oil facilities

(1) Heavy oil facilities shall operate in accordance with the requirements for other heating oil facilities in section 6(C) of this rule.

(2) The owner or operator of heavy oil facilities with fiberglass tanks or piping shall monitor representative product temperature within the tank daily to ensure it does not exceed tank and piping manufacturer's specifications or limits. Product temperature readings shall be recorded, including date, temperature, and the initials of the person taking the measurements or readings. Temperature records shall be maintained at the facility for a period of three (3) years and available to Department personnel and representatives or municipal officials.

(3) Product temperature measurement equipment shall be maintained in good operating condition. Such equipment shall be tested and if necessary, calibrated, at least annually by a properly trained representative of the owner or operator, a Class I certified installer or an authorized representative of the manufacturer.

D. Closure requirement. Heavy oil tanks must comply with the requirements of section 11 of this rule.

10. Regulation of Pressurized Airport Aviation Fuel Hydrant Piping Systems

A. Applicability

(1) This section of the rules shall apply to all underground pressurized airport aviation fuel hydrant piping systems, including associated pressurized transmission piping, that are a part of an underground oil storage facility.

(2) Underground tanks storing aviation fuel shall comply with section 5 or 8 of these rules, as applicable.

B. Design, construction and installation requirements for new and replacement pressurized airport hydrant piping systems

(1) General design and construction requirements

(a) Bare steel and asphalt coated steel piping are prohibited.

(b) All new and replacement steel piping in contact with soil shall be cathodically protected and coated with a suitable dielectric material. The cathodic protection system shall be designed by a corrosion expert to adequately protect all parts of the piping system from corrosion by maintaining a negative structure to soil potential of at least 0.85 volts. Cathodic protection systems shall be designed in accordance with National Association

of Corrosion Engineers Standard RP-02-85, "Control of External Corrosion on Metallic Buried or Partially Buried, or Submerged Liquid Storage Systems".

(c) All new and replacement steel piping shall be constructed of carbon steel pipe with 3/8-inch wall thickness for pipe 12 inches or larger in diameter, or of schedule 10 or 20 stainless steel.

(d) Piping shall be designed by a professional engineer in compliance with Maine's professional regulation statutes, and constructed in accordance with American National Standards Institute (ANSI) standard for "Chemical Plant and Petroleum Refinery Piping", ANSI/ASME B 31.3.

(2) Leak detection. All new and replacement airport hydrant piping routinely containing oil shall be provided with secondary containment and continuous interstitial space monitoring. Secondary containment utilizing an excavation liner shall be designed and installed in accordance with Appendix O.

NOTE: Facilities with more than 42,000 gallons capacity are required to maintain a Spill Prevention, Control, and Countermeasure (SPCC) Plan in accordance with U.S. Environmental Protection Agency regulations, 40 CFR, Part 12.

(3) General installation requirements

(a) No new or replacement airport hydrant piping may be installed unless the facility and piping have been registered in accordance with Section 4 of this rule.

(b) New and replacement airport hydrant piping shall be installed according to good engineering practices with seamless pipe, using welded joints and under the supervision of a professional engineer registered in Maine or otherwise working in compliance with Title 32 MRSA, section 1351, et seq. The engineer shall be responsible for surveillance of all phases of installation. Installation plans shall be submitted for Department review and approval at least 60 days prior to new or replacement piping registration and shall include at a minimum:

(i) Secondary containment and leak detection installation details;

(ii) Excavation and backfill specifications;

(iii) Pipe material specifications;

(iv) Welding specifications; and

(v) Cathodic protection system installation:

(c) Installation of the cathodic protection system shall be supervised by a corrosion expert.

(d) If airport hydrant piping is replaced, any underground oil storage tank(s) not constructed of fiberglass, cathodically protected steel, or other Commissioner approved non-corrosive

materials in conformance with sections 5 or 8 of this rule shall be replaced at the same time.

(e) New and replacement piping shall be installed in accordance with ANSI B31.3.

(f) Welded joints shall be radiograph inspected.

(g) Hydrant pits shall be liquid tight and shall drain to an oil water separator, or other Commissioner approved collection and treatment system.

(h) Certification of proper installation. Owners of new and replacement facilities shall ensure that the project engineer provides certification to the Commissioner within 30 days of completion of installation that the facility's materials, design and installation are in compliance with the requirements of this rule. This certification shall be provided in writing on a form provided by the Commissioner.

C. Retrofitting requirements for existing airport hydrant piping systems

(1) Existing airport hydrant piping systems without secondary containment and interstitial space monitoring or another form of leak detection in compliance with section 5 (B)(2) of this rule, shall retrofit or implement one of the following leak detection methods by December 1, 1991:

(a) An annual hydrostatic test of the entire piping line conducted at 150 percent of maximum design operating pressure, or maximum transient surge pressure, whichever is greater. Test shall be conducted for a minimum of four (4) hours and otherwise in accordance with API Recommended Practice 1110, "Pressure Testing of Liquid Petroleum Pipelines".

(b) Continuous vapor or tracer monitoring in the unsaturated soil zone, using sufficient sampling points to detect a leak or discharge of oil from any point in the piping. Vapor monitoring shall meet the requirements specified in section 5(B)(2)(c) of this rule.

(c) Other leak detection systems approved by the Commissioner that can reliably detect a loss of at least 40 gallons per day.

(2) Existing airport hydrant piping systems constructed of steel may retrofit corrosion protection in accordance with Title 38 MRSA, section 563-A(l-A) as an alternative to abandonment or replacement, provided a corrosion induced leak has not occurred and the system is not located in a sensitive geological area. To be eligible for this exemption, the facility owner or operator must demonstrate to the Commissioner's satisfaction that the airport hydrant piping system does not leak 40 gallons or more per day and that any leaks are not directly or indirectly due to corrosion. Cathodic protection shall be designed by a corrosion expert and installed in accordance with the standards of Section 10 (B) above. Leak detection shall be retrofitted at the same time cathodic protection is retrofitted.

D. Operation maintenance, and testing requirements for new, replacement and existing hydrant piping systems

(1) Airport aviation fuel hydrant piping systems shall operate in accordance with the requirements of section 5(D) of this rule, except 5(D)(1) and (2); and

(2) Repairs of new, replacement, and existing piping shall be done in accordance with good engineering practice and under the surveillance of a Maine professional engineer. Upon completion, the repaired section shall be tested for leaks and for proper operation of the cathodic protection system. A report describing the repairs made and test results shall be submitted by the owner or operator to the Commissioner for his approval.

E. Closure and abandonment of airport hydrant piping systems shall be in accordance with Section 11 of this rule.

11. Regulations for Proper Closure of Underground Oil Storage Facilities

A. Facility closure requirements

(1) The owner or operator of an underground oil storage facility or tank that has been or is intended to be out-of-service for a period of more than 12 months shall be closed in accordance with the requirements of this section. Satisfactory closure shall include:

(a) Proper abandonment of tanks, piping, and other facility components;

(b) Emptying and cleaning tanks of all liquids and accumulated sludges;

(c) Storage or disposal of removed tanks in accordance with this section;

(d) For motor fuel, marketing and distribution facilities, waste oil facilities, field constructed tanks, heavy oil facilities and airport hydrant piping; completion of a site assessment in accordance with the requirements of Appendix P; and

(e) Clean-up of discharges and leaks to the satisfaction of the Commissioner in accordance with section 12 of this rule.

(2) When ownership of the facility or tank is unknown, the current landowner shall be responsible for facility closure.

NOTE: Maine statute (38 MRSA, subsection 563-A) requires the closure of non-conforming tanks in accordance with this rule. Compliance dates vary based on tank age and location. Consult the statute or contact the Bureau of Hazardous Materials & Solid Waste Control to determine the applicable deadline.

B. Temporarily out of service facilities and tanks

(1) All underground oil storage tanks, piping and ancillary equipment that have been, or are intended to be, taken out of service for a period of more than twelve (12) months shall be properly abandoned unless the tank owner has received written permission from the Commissioner to remain temporarily out of service in accordance with the requirements of this subsection.

(2) When a facility has been or is intended to be temporarily out of service for a period to exceed three (3) months and not to exceed 12 months, the owner or operator shall:

(a) Continue operation and maintenance of the corrosion protection system in accordance with the applicable requirements of this rule;

(b) Continue leak detection in accordance with the applicable requirements of this rule, unless all product is emptied from the tank with no more than one (1) inch of residual left;

(c) Leave vent lines open and functioning; and

(d) Cap and secure all other lines, pumps, manways and ancillary equipment.

(e) Evidence of a leak or discharge shall be reported, investigated and, if confirmed, remediated in accordance with Section 12 of this rule.

(3) A tank owner may apply in writing for approval to allow a facility to remain temporarily out of service for more than 12 months. Written approval may only be granted by the Commissioner for a period of time not to exceed an additional 12 months when:

(a) The owner can provide documentation that the facility is not leaking;

(b) The requirements of paragraph (2) above have been met;

(c) The facility shall be precision tested prior to returning to service; and

(d) The facility is constructed of fiberglass, cathodically protected steel, or another equally non-corrosive material approved by the Commissioner.

C. Abandonment by removal

(1) Tanks or facilities which have been out of service for twelve (12) months must be removed within sixty (60) days unless a written request has been made and has not been acted upon or unless written permission has been granted by the Commissioner pursuant to section 11(B).

(2) Removal of tanks and facilities shall be conducted in sequence in accordance with the requirements contained in Appendix J to the satisfaction of the Commissioner. For facilities listed in section 11(A)(1)(d), a site assessment shall be conducted at the time of removal in accordance with Appendix P of this rule.

(3) As required by Title 38 MRSA, subsection 566-A(5) removals of Class 1 liquid tanks or facilities as of September 28, 1991 must be conducted under the direct, on-site supervision of an underground oil storage tank installer or remover certified pursuant to Title 32, sections 10001 et seq., or of fire-fighting personnel certified by the Commissioner.

NOTE: The above requirement applies to gasoline facilities and possibly other liquid petroleum products such as aviation fuel.

NOTE: Fire prevention requirements of these rules can also be enforced by State and local fire officials.

(4) If underground oil storage tanks which have been removed are stored, the following provisions shall apply:

(a) Areas chosen for storage shall not be accessible to the general public.

(b) Inerted tanks may be stored with unplugged openings. While being transported, openings are to be tightly plugged, screwed plugs shall be used and one plug shall have an 1/8 inch vent hole to prevent the tank from being subjected to an excessive pressure differential caused by extreme temperature changes.

(c) All stored underground oil storage tanks shall be labeled with the information noted in section 11(C)(45)(c).

(d) Any scale or sludge released by the tank prior to and during storage shall be disposed of in accordance with Chapter 851 of the Maine Hazardous Waste Management Rules.

(5) If underground oil storage tanks which have been removed are sold or reused, the following provisions shall apply:

(a) Bare steel and asphalt coated steel tanks shall not be re-installed for use as an underground oil storage facility;

(b) Fiberglass and cathodically protected tanks or piping may be re-installed, provided that the tank owner has supplied the Commissioner with satisfactory documentation that the manufacturer will warranty the facility for a period of at least ten (10) years for internal and external corrosion and structural failure, after which the tanks or piping shall be properly abandoned pursuant to this section. A written statement attesting to the validity of the warranty, signed by the tank manufacturer, and provided to the Commissioner constitutes the only proof of warranty coverage.

(c) All transactions shall be accompanied by a bill of sale indicating the former use of the tank. The bill of sale shall contain the following warning:

Tank Has Contained Leaded Gasoline or Flammable Liquid (use applicable designation)
Not Gas-Free
Not Suitable for Food or Drinking Water

(d) The tank shall be clearly marked with the notice stated in subparagraph c above, in legible letters not less than one (1) inch high, regardless of the condition of the tank.

(e) Abandoned underground oil storage tanks are prohibited from use for above ground storage of oil.

D. Abandonment by filling in place

(1) Abandoned facilities and tanks shall be removed, except where the owner can demonstrate to the Commissioner that removal is not physically possible or practicable because the tank or other component of the facility to be removed is either:

(a) Located beneath a building or other permanent structure which cannot be practically replaced;

(b) Of a size and type of construction that it cannot be removed;

(c) Inaccessible to heavy equipment necessary for removal; or

(d) Positioned in such a manner that removal would endanger the structural integrity of nearby tanks.

(2) A facility or tank owner may apply to the Commissioner for a variance to abandon a facility or tank in place rather than abandon the tank or facility by removal. The Commissioner may grant such a variance request if it finds that:

(a) Abandonment by removal is not possible or practicable due to circumstances other than those listed in paragraph 1 above; and

(b) The granting of a variance shall not pose a threat to a private or public drinking water supply or the quality of ground water, and is consistent with the intent of this rule.

(3) All facilities to be abandoned in place shall do so by following the procedures outlined in Appendix K in sequence. For facilities listed in section 11(A)(1)(d), a site assessment shall be conducted at the time of abandonment in accordance with Appendix P of this rule.

E. Notification requirements

(1) The owner or operator of a facility or tank which is to be closed or abandoned shall notify the Commissioner and the local fire department having jurisdiction. This notice shall be in writing and received by the Commissioner at least (30) days prior to abandonment, except that when ownership of the facility or tank is unknown, the current property owner shall be responsible for compliance with the requirements of this section. This notice shall include:

(a) The name, mailing address, and telephone number of the owner;

(b) The mailing address and location of the facility;

(c) The size(s) of tank(s) to be abandoned or taken out of service;

(d) The type(s) of product(s) most recently stored in each tank;

(e) The registration number of the facility and tank(s) if registered under this rule;

(f) If the tank has contained a Class I liquid, the inerting procedure and, if applicable, the cleaning location;

(g) If abandonment in place is planned, the criteria used for justifying abandonment in place, as listed in section 11 (D)(1), above;

(h) The approximate age of the tank, if known; and

(i) The date upon which the facility or tank is to be removed or when a variance has been granted pursuant to section 11(C) of this rule, the date on which the tank or facility will be properly abandoned on site.

(2) The tank owner shall keep a permanent record of the tank location, the date of abandonment, and the method of conditioning the tank for abandonment.

(3) The tank owner shall be responsible for attaching to the deed of the property on which the tank is located a notice that an underground oil storage tank which has been abandoned in place pursuant to section 11(C). The deed notation shall be executed within 30 days of completion of the abandonment.

12. Discharge and Leak Investigation, Response and Corrective Action Requirements

A. General requirements

(1) In accordance with Title 38 MRSA, section 568, any facility owner or operator or other responsible party, as defined in 38 MRSA, section 562-A(17), where a leak, spill or other prohibited discharge of oil occurs shall immediately undertake to remove that discharge to the satisfaction of the Commissioner, and in accordance with the requirements of this section. In determining the extent of a corrective action, the Commissioner and his staff shall consider the potential for human exposure and for adverse effects on public safety, health and welfare as well as the environment.

(2) Any evidence of a possible leak or discharge of oil as defined in section 5(D)(9) of this rule, any spill or overfill, or any other discharge of oil shall be reported to the Commissioner within 24 hours of discovery. Notwithstanding the above, discharges of 10 or less gallons of oil that occur above the surface of the ground, and not reaching ground water or surface waters of the State, need not be reported to the Commissioner if the owner or operator complies with all of the following requirements:

(a) The discharge is cleaned up within 24 hours of discovery.

(b) A written log is maintained at the facility or the owner's place of business in Maine recording for each discharge, the date of discovery, its source, the general location of the discharge at the facility, the date and method of cleanup, and the signature of the facility owner or operator certifying the accuracy of the log.

(c) The log shall be readily available for inspection by personnel and authorized agents of the Commissioner.

NOTE: Discharges of oil may be reported by calling the Department's toll free telephone number, 1-800-482-0777.

(3) Any person who causes, or is responsible for, a discharge to ground water in violation of 38 MRSA, section 543, is not subject to any fines or penalties for a violation of subsection 543 for the discharge if that person promptly reports and removes that discharge in accordance with this rule as well as other rules or orders of the Commissioner and the Board.

(4) All corrective action plans required under this Section shall be certified by a Maine certified geologist, a registered Maine professional engineer, or a geologist or engineer otherwise in compliance with the Maine professional regulation statutes for geologists or engineers. Geological and hydrogeological interpretations shall be certified by a geologist. Contaminated soil and ground water treatment system design plans shall be stamped by an engineer. Implementation of corrective actions shall be supervised by a Maine certified geologist, a Maine registered professional engineer, or an engineer or geologist otherwise working in compliance with Maine's professional regulation statutes. Individuals providing the above professional services should be knowledgeable in underground oil storage facility investigation and remediation.

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(5) Leaks and discharges of oil shall be investigated and corrected using techniques that are cost-effective, reliable and technically feasible.

B. Leak investigation and confirmation requirements

(1) The facility owner or operator, or other responsible party shall immediately investigate and confirm all suspected leaks, spills or other discharges of oil to the Commissioner's satisfaction within 14 days of discovery, or another reasonable time period approved by the Commissioner, using the following steps or another procedure approved by the Commissioner:

(a) Leak detection check. If the facility has leak detection in accordance with this rule, a check of the leak detection system may be conducted prior to precision testing. All components of the leak detection system for tanks and piping shall be checked for proper operation, recalibrated if an automated or electronic system, and monitored in accordance with the requirements of this rule and if applicable, the manufacturer's instructions. Monitoring shall be conducted for five (5) consecutive days. For manual leak detection systems, monitoring shall be conducted daily. Records of the findings of the leak detection check and monitoring shall be provided to the Commissioner. If leak detection monitoring results are conclusive and do not indicate a leak, further investigation is not needed, unless there is other environmental contamination or physical evidence indicating a leak or discharge of oil. If the leak detection results indicate a leak, are inconclusive or the facility does not have leak detection meeting the requirements of this rule, the owner, operator or other responsible party shall conduct a precision test of the facility in accordance with subparagraph b. If leak detection indicates a leak the owner, operator or other responsible party shall abandon, repair or replace facility components in

accordance with appropriate sections of this rule. In addition the owner or operator of a motor fuel, marketing or distribution facility shall also comply with the testing and replacement procedures outlined below in paragraph d of this Section.

NOTE: Redoing a facility's statistical inventory analysis is not an acceptable option under the leak detection check requirements because of the delay to collect the 30 to 60 days of daily product inventory data required by this method.

(b) Precision test. The owner, operator or other responsible party shall conduct a precision test of the facility that determines whether and where a leak exists. A copy of all precision test results shall be submitted to the Commissioner by the facility owner and the tester.

(i) If a precision test indicates a leak the owner, operator or other responsible party shall abandon, repair or replace facility components in accordance with appropriate sections of this rule and initiate a site assessment and corrective actions as specified in this section. In addition the owner or operator of a motor fuel, marketing or distribution facility shall also comply with the replacement procedures outlined below in subparagraph c.

(ii) If results from a Commissioner approved and properly conducted precision test of the facility does not indicate a leak exists and if no environmental contamination or other physical evidence is the basis for suspecting a leak or discharge, further investigation is not required. The Commissioner may require additional precision testing or an investigation in accordance with section 12(B)(1)(c) for environmental contamination by oil if initial precision tests are inconclusive or improperly conducted.

(iii) The facility owner, operator or other responsible party shall conduct a site assessment as described below in subparagraph c if precision test results do not indicate a leak exists but evidence of environmental contamination or other physical evidence is the basis for suspecting a leak.

(c) Site assessment

(i) The objectives of the site assessment are as follows:

(a) Determine the presence or absence of a leak or oil discharge where contamination is most likely to be present on the facility site;

(b) Identify the presence and the extent of free product and soils contaminated above the notification levels in Appendix P of this rule;

(c) Determine the degree of a threat to ground water quality; and

(d) Consider the nature of the oils stored at a facility, the cause for suspecting a leak or discharge, the type of backfill and soils, the depth of ground water, the depth of bedrock, and other factors appropriate for identifying the presence and source of a leak or other discharge.

(ii) The site assessment shall be conducted in accordance with procedures outlined in Appendix P of this rule, except that paragraph 8 of that appendix shall not apply. To verify the presence or absence of a leak or oil discharge at an operating facility in follow-up to the requirements of sections 12(B)(1)(b)(ii) or (iii) above, in situ hydrogeological investigation procedures outlined in paragraph 7 of Appendix P shall be followed.

(iii) If site assessment results for the excavation zone and other areas of the facility site indicate that a leak, spill or other discharge of oil has occurred, the owner or operator shall begin corrective actions in accordance with subsection C below.

(iv) If the site assessment results for the excavation zone and other areas of the facility site do not indicate a leak, spill or other discharge of oil has occurred, further investigation is not required.

(d) If replacement or removal is required as a result of a corrosion-induced leak in an unprotected steel tank, the owner or operator of the facility may either replace all other tanks and piping at that facility not meeting the design and installation standards set forth in section 5(B) of this rule or comply with all of the following:

(i) Remove all bare steel and asphalt-coated steel tanks at the facility that are more than 20 years old. For the purposes of this subsection, where the age of a tank cannot be reasonably determined, all tanks will be assumed to be 20 years old as of May 1, 1986.

(ii) Perform a statistical inventory analysis of the entire facility and submit the results of that analysis to the Commissioner, in accordance with the requirements of section 5(D)(2). If a statistical inventory analysis of the entire facility has been performed within 60 days prior to the required removal, then the results of that analysis may be submitted to the Commissioner instead. If the results of the statistical inventory analysis for any portion of the facility indicates evidence of a leak or that the data are not sufficiently reliable to make a determination that the facility is or is not leaking according to the requirements of section 5(D)(2)(C), the Commissioner may require that all remaining tanks and piping at the facility be precision tested, unless it can be demonstrated that the same tanks and piping passed a precision test meeting Department specifications within the previous six (6) months; and

(iii) Results of all precision tests conducted pursuant to (ii) above, shall be submitted to the Commissioner by the facility owner and the tester, and all tanks and piping found to be leaking shall be removed pursuant to section 11 of this rule.

(e) Within 28 days of discovery of evidence of a leak or another time period approved by the Commissioner, the owner, operator or other responsible party shall submit a report on the steps taken and the findings of leak investigation and confirmation efforts. The report will include the name, address, and telephone number of the person to contact for more information. This report shall include a a site assessment report meeting the requirements of Appendix P except that the reporting deadline shall be as specified above in this subparagraph.

C. Minimum corrective action requirements

(1) Initial response and abatement measures

(a) Identify and mitigate fire, explosion and vapor hazards to the satisfaction of the Commissioner and the local public safety agency having jurisdiction within 24 hours of discovery of a leak or discharge or another time period approved by the Commissioner.

(b) Take immediate action to prevent any further discharge of oil from the facility to the environment within 24 hours of discovery of leak or discharge, or another time period approved by the Commissioner. This shall include ceasing use and removing from those tanks and associated piping suspected or tested to be leaking as much oil as necessary to entirely stop the discharge. All tanks and piping shall be abandoned in accordance with section 11.

(c) Remove the tanks and associated piping as soon as possible in accordance with section 11 of this rule except that compliance with the waiting period between notification and abandonment is hereby waived.

(d) Prevent further migration of oil into surrounding soils and ground water and surface water, including the removal of any free product in the vicinity of the tanks and piping or other source of leak or discharge. Recovery of free product shall be initiated immediately upon discovery and followed by submission of a free product abatement plan, meeting the requirements of paragraph 2 of this subsection, minimum corrective actions.

(e) Continue to monitor and mitigate any additional fire and safety hazards posed by vapors or free product that has migrated from the excavation zone and entered into structures, sewers and utility conduits.

(f) Soil remediation. Remediate all oil saturated soils and all soils contaminated above an action level established by the Commissioner on a case by case basis, and measured by laboratory analyses and using the jar headspace vapor measurement technique described in Appendix RQ or another field analytical technique at least as accurate and sensitive approved by the Commissioner. Prior to the filling of any tank or piping excavation, an adequate number of soil samples shall be collected for laboratory analysis to determine whether additional soil remediation shall be required by the Commissioner. A minimum of two (2) such samples shall be collected at a minimum from soils to be analyzed by the jar headspace technique and to bracket the range of hydrocarbon concentrations found in the field. Soil samples shall be analyzed in a laboratory for total gasoline or total fuel oil, as appropriate, or by another comprehensive hydrocarbon laboratory method approved by the Commissioner. Laboratory methods used to analyze soil samples shall be capable of detecting one (1) ppm total gasoline, five (5)ppm of total fuel oil, or one (1) ppm of other parameters with a 90 percent probability, as appropriate.

(g) Soil treatment. The method and location of contaminated soil treatment or processing (in situ or above ground) shall be approved by the Commissioner and, if to be treated off the facility site, shall comply with applicable regulations administered by the department.

(h) Soil disposal. Oil contaminated soils may be disposed at a Maine landfill that is specifically licensed by or otherwise has been approved by the Commissioner or department for such disposal or treatment. This subparagraph shall not preclude disposal at a properly licensed out of state disposal or treatment facility.

(i) Sampling water supply wells. The closest water supply wells to the facility, private or public, located at or surrounding the facility in all directions and within 1000 feet of the facility shall be sampled and analyzed for total gasoline hydrocarbons, total heating oil hydrocarbons, benzene or MTBE as required by the Commissioner. When wells are found contaminated, sampling shall continue to the next furthest well(s) in the same general direction from the facility until it is certain all water supplies contaminated by a leak or discharge are identified. The Commissioner may require other water supplies suspected to be contaminated to also be sampled. The owners of all wells sampled shall be provided with a copy and explanation of the results within seven days. If a public drinking water supply is found to be contaminated, the Bureau of Health in the Maine Department of Human Services shall be notified within 24 hours of discovery.. Water samples shall be analyzed by a laboratory with a minimum detection limit of 10 ppb total gasoline or less, 5 ppb benzene or less 50 ppb heating oil or less, and 20 ppb MTBE or less.

(j) Treatment of contaminated private water supply wells. Owners of private water supplies found to be contaminated shall be offered and provided with point-of-entry water treatment within 15 days of the discovery of contamination. Such treatment shall reliably reduce the level of contamination below primary drinking water standards and Maine Bureau of Health maximum exposure guidelines. For water supplies contaminated with gasoline or heating oil below 1 ppm or MTBE below 100 ppb, two granulated-activated charcoal filters installed in series may be used. Contamination above these levels shall require treatment by aeration. Other point-of-entry treatment systems may be utilized when demonstrated to be effective and reliable in reducing oil contamination and approved by the Commissioner. If treatment does not reduce contamination levels below required health standards, the Commissioner may require different or additional interim remedial measures to avoid human exposure to oil contaminants.

(k) Treatment of contaminated public water supplies. The Commissioner may require contaminated public water supplies wells to be provided by the owner, operator or other responsible party with treatment adequate to reduce oil concentrations below primary drinking water standards and Maine Bureau of Health maximum exposure guidelines. The treatment system shall be designed by a professional engineer registered in Maine or working in conformance with Maine's professional regulation statutes and rules, and be approved by the Commissioner, the Maine Bureau of Health and the public water supply owner.

(l) Water supply monitoring requirements

(i) Affected water supplies shall be monitored by sampling once every three (3) months before, between and after treatment devices for as long as the system is operating. Water shall be analyzed for total gasoline and benzene, total heating oil hydrocarbons, or other applicable parameters as required by the Commissioner.

(ii) Water supplies found to be contaminated with oil below established health standards shall be monitored every three (3) months for total gasoline hydrocarbons and benzene, total heating oil hydrocarbons or other applicable parameters required by the Commissioner. Water supplies located in close proximity to and adjoining to contaminated ones shall along with other wells deemed by the Commissioner to be at significant risk of contamination also be monitored in accordance with the above requirements.

(iii) Monitoring of contaminated water supplies and supplies deemed at significant risk of contamination shall continue until either use of the supply is discontinued, four (4) consecutive quarterly monitoring results do not detect contamination by oil or its components, or monitoring is suspended by the Commissioner because in his judgment it is no longer needed.

(iv) Monitoring results shall be provided to the Commissioner and the water supply owner within seven (7) days of receipt.

(m) Point-of-entry treatment devices shall be maintained in proper operating condition until completion to the Commissioner's satisfaction of a potable replacement drinking water supply or the completion of long-term correction actions and settlement of third party damage claims.

(n) Within 30 days after confirmation of a leak or other discharge of oil, the owner, operator or other responsible party shall submit a written report to the Commissioner summarizing the initial response and abatement measures taken, their effectiveness, any resulting data or laboratory analyses, documentation that affected parties and the Maine Bureau of Health have been properly notified and the need for hydrogeological characterization and investigation of the extent of contamination, or for additional abatement measures.

(o) Upon consideration of the level and type of contamination, the sensitivity of the geological setting of the facility, the presence of possible receptors, and proximity to important ground water or surface water resources; the Commissioner may require an hydrogeological investigation in accordance with paragraph 4 below as well as additional initial abatement measures.

(2) Free product recovery. Free oil product shall be recovered or removed to the satisfaction of the Commissioner at all sites where found. A free product abatement plan shall be submitted for the review and prior approval of the Commissioner. The free product abatement plan shall be submitted within 30 days of discovering free product or another time period approved by the Commissioner. Such a plan shall include, at a minimum:

(a) Methods for control of free product migration and the removal or recovery of all free product that is technically feasible shall be the minimum objectives of any abatement plan. Free product removal or recovery shall be conducted in a manner that minimizes the spread of contamination into previously uncontaminated zones using techniques appropriate to the hydrogeological conditions of the site, and that properly treats, discharges or disposes of recovery byproducts.

(b) Methods to handle any flammable products in a safe and competent manner to prevent fires or explosions.

(c) The name of the person(s) responsible for implementing free product removal or recovery procedures.

(d) The plan shall include estimated quantity, type and thickness of free product observed or measured in wells, boreholes and excavations.

(e) Any discharge of free oil product or a free product and water emulsion is prohibited.

(f) The location of any discharge of dissolved phase oil contaminated water.

(g) The type of treatment to be applied to and the effluent quality expected from any discharge.

(h) The disposition and handling of recovered free product.

(i) If removal is to include soil gas venting, the quality and quantity of expected air emissions.

(3) Hydrogeological investigation of the extent of contamination

(a) The objectives of the initial hydrogeological investigation are to characterize the geology of the facility and the surrounding area, to determine the concentration and extent of soil and ground water contamination, to determine the direction and rate of contamination movement, to identify what resources and receptors are at significant risk of contamination and to determine the need for and the objectives of long-term corrective actions. The initial hydrogeological investigation study shall cover the facility site and those areas known or suspected to be contaminated by oil.

(b) The following existing data, where available, shall be compiled and reviewed:

(i) Soils maps;

(ii) Aerial photographs;

(iii) Well logs for all contaminated wells and wells on properties abutting a parcel with a contaminated well and all other wells within 500 feet of the facility;

(iv) A property tax map or other base map at a scale of 1"=500' or less showing existing structures, property ownership, surrounding land uses, right-of-ways, roads, existing underground utilities and public and private water supply wells that are contaminated, on a land parcel abutting a parcel with a contaminated well or within 1000 feet of the facility;

(v) Surface water bodies, including intermittent streams, wetlands and flood plains;

(vi) Regional bedrock geology; and

(vii) Surficial geology.

(c) Fracture trace analysis. Conduct a fracture trace analysis if contamination of ground water in the bedrock is documented or likely. The analysis shall include measurement of fractures observed in bedrock outcrops and on aerial photographs, on a site plan, a U.S. Geological Survey quadrangle, a rose diagram or a polar plot. The relationship between observed fracture patterns to well yields and contamination movement shall be determined. A summary and analysis of available published studies of bedrock fractures relevant to the investigation site shall also be provided.

(d) Develop ground water and contamination contour maps of the facility utilizing existing wells, where available and at least four (4) ground water monitoring wells located in the surrounding impacted area, one of which shall be located upgradient (Dry wells shall not count toward the minimum four (4) wells). The maps shall include the location of ground water monitoring wells, ground water elevations (measured to the nearest one hundredth of a foot), ground water contours, contamination levels and contours, current and past locations of tanks and piping, location of subsurface waste disposal system and any dry wells, and the location of sewer and any other underground utility lines.

(e) The following minimum data shall be collected and logged during the boring of ground water monitoring wells:

(i) Soil and subsoil conditions and types (described using the unified soil classification system);

(ii) Presence and depth of confining strata;

(iii) Presence, depth of free oil products;

(iv) Depth of water table;

(v) Presence and depth of bedrock; and

(vi) Continuous split spoon logging screening for oil contaminated soils above the water table with a flame or photo ionization field sampling instrument, using the methodology outlined in Appendix Q or another technique of comparable precision and reliability approved by the Commissioner.

(f) Water quality sampling and analyses requirements are:

(i) Each well shall be properly developed and allowed to stabilize prior to sampling;

(ii) Samples shall be collected in accordance with the Department's "Ground Water Sampling Manual for Underground Tank Sites" or by another collection method approved by the Commissioner;

(iii) Samples shall be analyzed in a laboratory for total gasoline or total heating oil, as appropriate, or by another comprehensive hydrocarbon laboratory method approved by the Commissioner;

(iv) Whenever gasoline contamination is suspected, sample analyses shall include methyl tertiary butyl ether (MTBE) and benzene;

(v) Laboratory methods used to analyze water samples shall be capable of detecting 10 ppb total gasoline hydrocarbons, 20 ppb MTBE, and 50 ppb total fuel oil hydrocarbons with a 90 percent probability; and

(vi) At least two (2) com